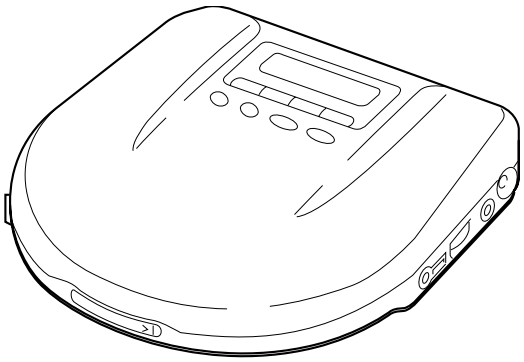
# D-E551/E555/E556CK

# SERVICE MANUAL

**Ver 1.0 1999. 02**



*US Model*
*D-E551/E555/E556CK*
*AEP Model*
*UK Model*
*D-E555/E556CK*

| | |
|---|---|
| Model Name Using Similar Mechanism | D-E700/E705 |
| CD Mechanism Type | CDM-2911EBA |
| Optical Pick-Up Name | DAX-11E |

## SPECIFICATIONS

### CD player section

**System**
Compact disc digital audio system

**Laser diode properties**
Material: GaAlAs
Wavelength: λ = 780 nm
Emission duration: Continuous
Laser output: Less than 44.6 µW (This output is the value measured at a distance of 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture. )

**Error correction**
Sony Super Strategy Cross Interleave Reed Solomon Code

**D-A conversion**
1-bit quartz time-axis control

**Frequency response**
20 - 20,000 Hz ±½ dB (measured by EIAJ CP-307)

**Output (at 4.5 V input level)**
Headphones (stereo minijack)
Approx. 15 mW + approx. 15 mW at 16 ohms
Line output (stereo minijack)
Output level 0.7 V rms at 47 kilohms
Recommended load impedance over 10 kilohms
Optical digital output (optical output connector)
Output level: –21 - –15 dBm
Wavelength: 630 - 690 nm at peak level

### General

**Power requirements**
For the area code of the model you purchased, check the upper left side of the bar code on the package.
- Two Sony NH-DM2AA rechargeable batteries: 2.4 V DC
  Two Sony NC-DMAA rechargeable batteries: 2.4 V DC
- Two LR6 (size AA) batteries: 3 V DC
- AC power adaptor (DC IN 4.5 V jack):
  US model: 120 V, 60 Hz
  AEP model: 220 - 230 V, 50/60 Hz
  UK model: 230 - 240 V, 50 Hz
- Sony DCC-E245 car battery cord for use on car battery: 4.5 V DC

**Dimensions (w/h/d) (without projecting parts and controls)**
Approx. 131.8 × 23.9 × 142.0 mm (5 ¼ × 1 ½ × 5 ⅝ in.)

**Mass (without rechargeable batteries)**
Approx. 200 g (7.0 oz)

**Operating temperature**
5°C - 35°C (41°F - 95°F)

### Supplied accessories

For the area code of the model you purchased, check the upper left side of the bar code on the package.

**D-E551**
AC power adaptor (1)
Headphones (1)

**D-E555**
AC power adaptor (1)
Headphones with remote control (1)*1
Earphones with remote control (1)*2
Rechargeable batteries (1)
Battery carrying case (1)
*1 Supplied with US model
*2 Not supplied with US model

**D-E556CK**
AC power adaptor (1)
Headphones (1)*1
Earphones (1)*2
Car battery cord (1)
Car connecting pack (1)
Velcro tape (2)
Spare fuse (1)
Spiral tube (1)
*1 Supplied with US model
*2 Not supplied with US model

Design and specifications are subject to change without notice.

## COMPACT DISC COMPACT PLAYER

MICROFILM

SONY®

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This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**Flexible Circuit Board Repairing**

- Keep the temperature of the soldering iron around 270 ˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board. (within 3 times)
- Be careful not to apply force on the conductor when soldering or unsoldering.

**Notes on chip component replacement**

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

# SECTION 1
# SERVICING NOTES

## NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

### Befor Replacing the Optical Pick-Up Block

Please be sure to check thoroughly the parameters as par the "Optical Pick-Up Block Checking Procedures" (Part No.: 9-960-027-11) issued separately before replacing the optical pick-up block. Note and specifications required to check are given below.

- FOK output: IC501 ⑫ pin
  When checking FOK, remove the lead wire to disc motor.
- S curve P-to-P value: 0.6 to 1.8 Vp-p IC501 ㉛ pin
  When checking S curve P-to-P value, remove the lead wire to disc motor.
- RF signal P-to-P value: 0.8 to 1.2 Vp-p
- Traverse signal P-to-P value: 1.2 Vp-p
- The repairing grating holder is impossible.

### Precautions for Checking Emission of Laser Diode

Laser light of the equipment is focused by the object lens in the optical pick-up so that the light focuses on the reflection surface of the disc. Therefore, be sure to keep your eyes more then 30 cm apart from the object lens when you check the emission of laser diode.

### Laser Diode Checking Methods

During normal operation of the equipment, emission of the laser diode is prohibited unless the upper panel is closed while turning ON the S801. (push switch type)
The following two checking methods for the laser diode are operable.

- **Method (In the service mode or normal operation): Emission of the laser diode is visually checked.**

1. Open the upper lid.
2. Push the S801 as shown in Fig. 1.
3. Press the ▶II key.
4. Check the object lens for confirming normal emission of the laser diode. If not emitting, there is a trouble in the automatic power control circuit or the optical pick-up.
   During normal operation, the laser diode is turned ON about 2.5 seconds for focus searching.

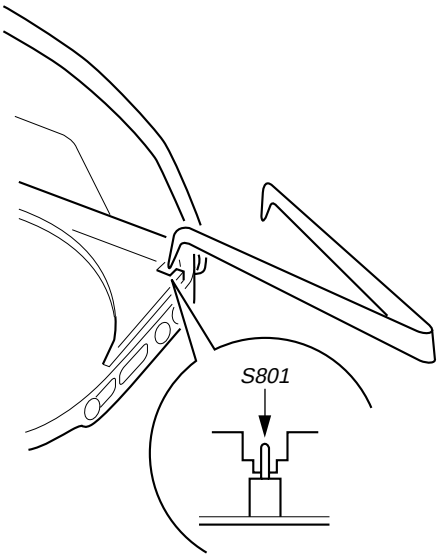


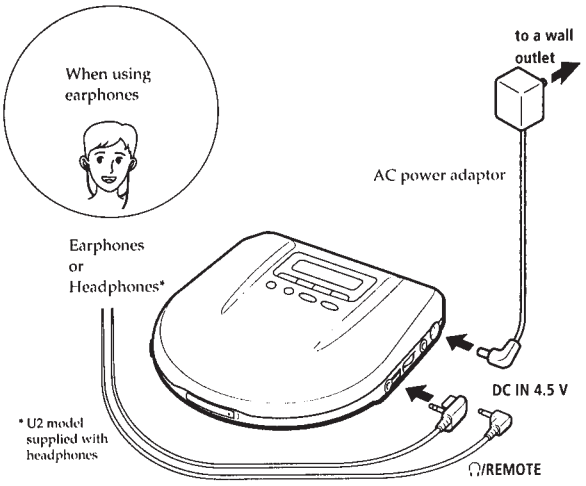

***Fig. 1 Method to push the S801***

This section is extracted from instruction manual.

# Playing a CD right away!

If you want to play a CD right now, choose to use your player on house current. Other choices are the following three: rechargeable battery, dry batteries (see "Power Sources" on the reverse side) and car battery.

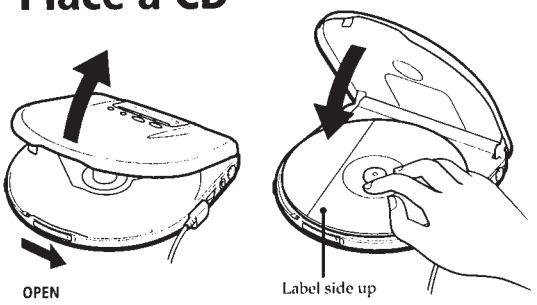
## 1 Connect




***For models supplied with the AC plug adaptor***
If the AC power adaptor does not fit the wall outlet, use the AC plug adaptor.

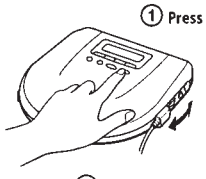
***For models supplied with the remote control***
- Connect the plug of the earphones/headphones to the remote control.
- Connect the earphones/headphones to the remote control firmly. A loose connection may cause noise during playback.

## 2 Place a CD

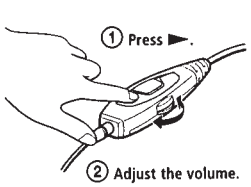



① Slide OPEN to open the lid.
② Fit the CD to the pivot.
③ Close the lid.

## 3 Play




**To use the remote control**



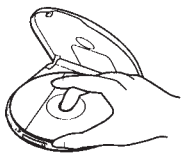

To stop play, press ■.

| To | Press |
|---|---|
| Pause (main unit only) | ►II |
| Resume play after pause (main unit only) | ►II |
| Find the beginning of the current track (AMS*) | I◄◄ once** |
| Find the beginning of previous tracks (AMS) | I◄◄ repeatedly** |
| Find the beginning of the next track (AMS) | ►►I once** |
| Find the beginning of succeeding tracks (AMS) | ►►I repeatedly** |
| Go forward quickly | Hold down ►►I** |
| Go backwards quickly | Hold down I◄◄ .** |

*AMS = Automatic Music Sensor
**These operations are possible during both play and pause.

If you press REPEAT/ENTER on the player to display "⊆", you can locate the tracks continuously in the following order:
- When using ►►I: next track → next track ..... last track → first track → second track .....
- When using I◄◄: previous track → previous track ..... first track → last track .....

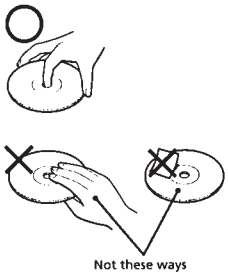
**To remove the CD**
Remove the CD while pressing the pivot.



***Notes on controlling the volume with the remote control***
Set the VOL (volume) control on the remote control to the maximum. Then adjust the volume on the player to the level that you want to be the maximum volume of the remote control.

***Notes on display***
- When you press ►II or ► (when RESUME is set to OFF), the total number of tracks in the CD and the total playing time appear for about 2 seconds.
- During play, the track number and the elapsed playing time of the current track appear.
- During pause, the elapsed playing time flashes in the display.
- Between tracks, the time to the beginning of the next track will appear with the "–" indication.

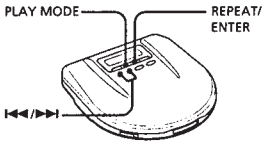
***Notes on handling CDs***
- To keep the CD clean, handle it by its edge. Do not touch the surface.
- Do not stick paper or tape onto the CD.
- Do not expose the CD to direct sunlight or heat sources such as hot air ducts. Do not leave the CD in a car parked under direct sunlight.



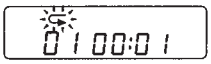

## ►Other Operations

### Playing tracks repeatedly (Repeat Play)

You can play tracks repeatedly in normal, INTRO PGM, shuffle or RMS (Random Music Sensor) play modes. Repeat all the tracks or only one track.

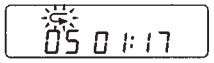



**To repeat all the tracks**
Press REPEAT/ENTER during play.
The "⊆" indication appears.

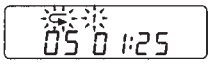



To cancel repeat play, press REPEAT/ENTER again.

**To repeat a single track**
1 Press REPEAT/ENTER while the track you want to repeat is playing.
The "⊆" indication appears.




2 Press PLAY MODE repeatedly until "1" appears.

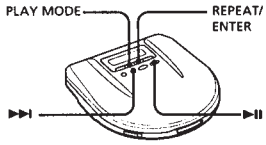



To repeat another track, press I◄◄ or ►►I .

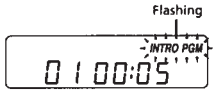
To cancel repeat play, press REPEAT/ENTER again.

### Playing only the tracks you want (INTRO PGM Play)

You can choose and play your favorite tracks by scanning through the beginning of each track in a CD.




1 During play, press PLAY MODE repeatedly until "INTRO PGM" flashes.




2 Press ►II to start scanning.
The player plays about the first 15 seconds of each track and "INTRO PGM" flashes faster.

3 Press REPEAT/ENTER while the track you want is playing. To skip the track, press ►►I or just wait for the next track.

After you have gone through the CD, "INTRO PGM" stops flashing and the tracks you have chosen play automatically.

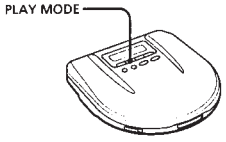
To finish programing before going through the whole CD, press ►II. The selected tracks will be played.

If you press ■, the program will be erased. To prevent accidental erasure, set the RESUME switch at the rear of the player to ON.

To cancel INTRO PGM play, press PLAY MODE repeatedly until the play mode indication disappears from the display.

## Playing tracks in random order (Shuffle Play)

You can play the tracks in a CD in random order.




During play, press PLAY MODE repeatedly until "SHUF" appears.
The tracks play in random order.

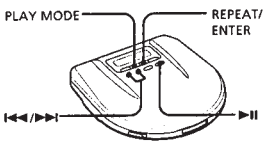
To cancel shuffle play, press PLAY MODE repeatedly until the play mode indication disappears from the display.

***Note***

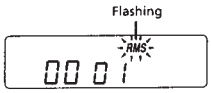
- During shuffle play, you cannot return to previous tracks by pressing ⏮ .

## Playing tracks in the order you want (RMS play)

You can program up to 22 tracks to play in any order you choose.

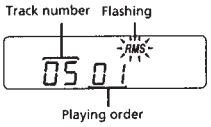



**1** During play, press PLAY MODE repeatedly until "RMS*" flashes.




*RMS = Random Music Sensor

**2** Press ⏮ or ⏭ to choose a track.
The track number and the playing order appear.




**3** Press REPEAT/ENTER to program the track.

**4** Repeat steps 2 and 3 to program the remaining tracks.

**5** Press ⏯.
"RMS" stops flashing and the tracks you have chosen play in the order you specified.

If you press ■, the program will be erased. To prevent accidental erasure, set the RESUME switch at the rear of the player to ON.

To cancel RMS play, press PLAY MODE until "RMS" disappears from the display.

### To check the program

During programming:
Press REPEAT/ENTER before step 5.
During RMS play:
Press PLAY MODE repeatedly until "RMS" flashes, then press REPEAT/ENTER.
Each time you press REPEAT/ENTER, the track number and the playing order appear in the order you specified.

***Note***

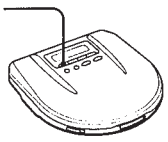
- If you program another track after the 22nd track, the first track programed is cleared and the new track is programed instead.

## Using other functions

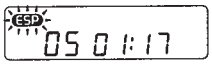
### To minimize skipping (ESP²)

The ESP (Electronic Shock Protection) function minimize skipping by using a buffer memory that stores music data and plays it back in the event of a shock.
The new ESP² (ESP Squared) system uses a new DSP (Digital Signal Processor) which can read and store music data more efficiently, providing a level of continuous skip protection not found in traditional buffer memory units. This decreases the frequency of sound skipping and the need to utilize the buffer memory. Use this function when listening in a car or while walking.*

* Although ESP² provides excellent protection against skipping, it will not prevent skipping while jogging or running.




Press ESP.
The ESP indication appears.



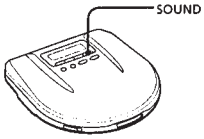

To release the ESP function, press ESP again.

***Notes***

- Playing may stop when the player gets a strong shock even with the ESP function on.
- You may hear a noise or sound skip when:
  — listening to a dirty or scratched CD,
  — listening to an audio test CD or,
  — the player receives continuous shock.
- Sound may drop for a while if you press ESP during play.
- When you use an optical digital connecting cord, the ESP function will be disabled.

### To enjoy more powerful bass sound (Sound function)

You can enjoy a powerful bass-boosted sound.



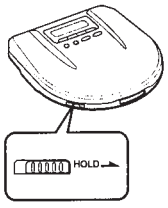

Press SOUND to select "MB (Mega Bass)" or "GRV (Groove)." "GRV" is more effective.

***Note***

- If the sound is distorted when emphasizing bass, turn down the volume.

### To lock the buttons

You can lock your player against any accidental operations.
You can still operate the player with the remote control.



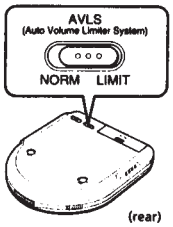

Slide HOLD in the direction of the arrow.
When you press any button, "*Hol d*" appears in the display and you cannot operate the player.

To unlock, slide HOLD back.

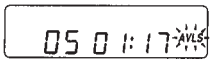
Continue to the reverse side →

### To protect your hearing (AVLS)

The AVLS (Automatic Volume Limiter System) function keeps down the maximum volume to protect your ears.




Set AVLS to LIMIT.
The AVLS indication appears.

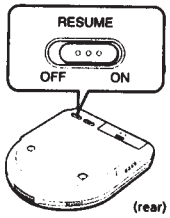



***Note***

- If you use the SOUND function and the AVLS function at the same time, sound may be distorted. If this happens, turn down the volume.

### To resume playing from the point you stopped the CD (Resume Play)

Normally, every time you stop and play, playing starts from the beginning of the CD. The resume play function, however, lets you listen to from the point at which you last turned off the player.




Set RESUME to ON.

To cancel resume play, set RESUME to OFF.

***Notes***

- Even if RESUME is set to ON, playing starts from the beginning when you open the lid.
- The resume point may be inaccurate by about 30 seconds.

### To turn off the beep

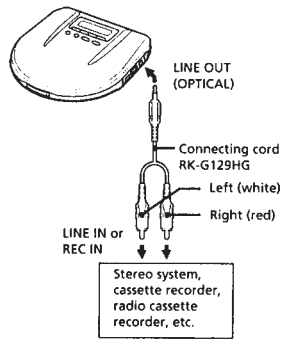
You can turn off the beep that sounds as you operate your player.

Disconnect the power source (AC power adaptor, rechargeable battery or alkaline batteries). While you press and hold down ■, connect the power source again. To make the beep sound again, disconnect the power source, and then connect it without pressing ■.

## Connecting to other stereo equipment

You can listen to the CD through other stereo equipment or record a CD on a cassette tape or a MiniDisc. Refer to the instruction manual of the other equipment for details. Before making connections, turn off each piece of equipment.

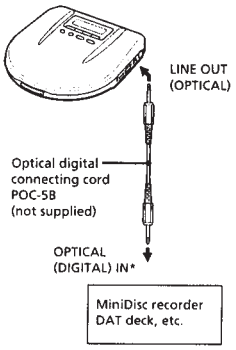
**Using the connecting cord**




***Note***

- When you use a connecting cord, the SOUND function will be disabled.

**Using the optical digital connecting cord**


LINE OUT (OPTICAL)
Optical digital connecting cord POC-5B (not supplied)
OPTICAL (DIGITAL) IN*
MiniDisc recorder DAT deck, etc.

*If the OPTICAL (DIGITAL) IN jack is square-shaped, use the POC-5AB optical digital connecting cord instead.

***Notes on connecting to other stereo equipment***

- Before you play the CD, turn down the volume of the connected equipment so as not to damage the connected speakers.
- The beep sound is not output from the LINE OUT (OPTICAL) jack.
- When you connect other equipment to the LINE OUT (OPTICAL) jack of this player, adjust the volume on the connected equipment.
- When you record a CD on a cassette tape using a tape recorder that has the blank search function, release the ESP function. If the ESP function is on, the blank search function does not work.
- Use the AC power adaptor for recording. If you use the rechargeable batteries or dry batteries as a power source, batteries may become weak during recording.

### Recording with optical digital connection

Record a CD on a MiniDisc, DAT, etc., according to the following procedure.

1 Press ⏯ on the player to start play.
2 Press ⏯ again to pause.
3 Press ⏮ / ⏭ to select the track you want to record.
4 Press ● (record) on the MiniDisc recorder, DAT recorder, etc.
5 Press ⏯ on the player to release pause.

***Notes***

- Connect the optical digital connecting cord while the player is in stop mode.
- If you record without pausing the player, some CD may have problem with recording the first track number correctly.
- The SOUND function works on the output from the ♫/REMOTE jack, but does not work on that from the LINE OUT (OPTICAL) jack.
- When use an optical digital connecting cord, the ESP function will be disabled.

### Playing a CD in a car

You can use your player in a car by connecting it to the car cassette deck.

You cannot use the car mount plate for this player.
When you use the player in a car, install it securely in a location which does not interfere your driving.

To connect your player to a car cassette deck, you need the following accessories:
- Car connecting pack CPA-9
- Car battery cord DCC-E245

or,
- Car battery cord with car connecting pack DCC-E26CP

Refer to the instruction manual of each accessory for details.

***Notes***

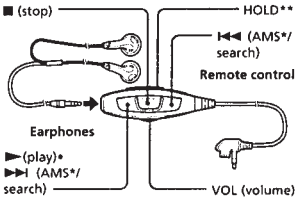
- Do not put the player on the dashboard.
- Do not leave the player in a car parked under sunlight.
- Use a Sony car connecting pack for reducing noise.
- Use only the car battery cord listed in the optional accessories. If you use any other car battery cord, smoke, fire or malfunction may occur.

***Switched ignition function (when using the car battery cord)***

With this feature, your player stops automatically when you turn off the engine of the car. (This function is not possible with some cars depending on the model).

## Using the remote control

**For the customers supplied with the remote control:**
You can use the remote control as the wired remote control.




* Automatic Music Sensor
** When you are not using the remote control, slide HOLD in the direction of the arrow to prevent any accidental operations. To unlock, slide HOLD back.

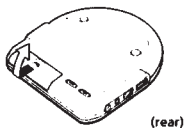
*Note*
• Use only the supplied remote control. You cannot operate this player with the remote control supplied with other models.

# ►Power Sources

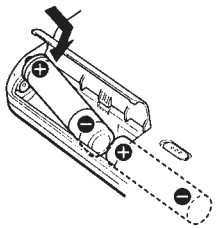
## Using rechargeable batteries

Charge the rechargeable batteries before using them for the first time.
Use the NH-DM2AA or NC-DMAA rechargeable batteries for this player. You cannot use any other rechargeable batteries.

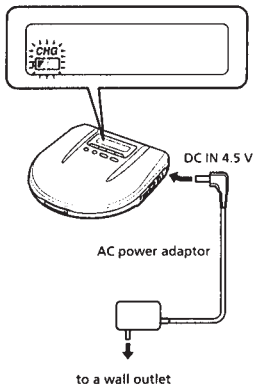
**1** Open the lid of the battery compartment.




**2** Insert two rechargeable batteries by matching the ⊕ and ⊖ to the diagram inside the battery compartment and close the lid.

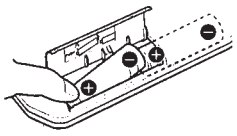


**3** Connect the AC power adaptor.
The indication "CHG" lights up. Charge for about 4 hours.
(If the battery has been already charged, "CHG" and ▭ flash.)




**4** When fully charged, "CHG" disappears. Disconnect the AC power adaptor.

### To take out the rechargeable batteries
Take out the batteries in the proper way as illustrated inside the lid or shown below.



### When to charge the rechargeable batteries
When the rechargeable batteries become weak, ▭ indication appears in the display. If the "Lo batt" appears in the display, charge the rechargeable batteries, because the batteries are used up.
To keep the original battery capacity for a long time, recharge the batteries when the batteries are used up (discharged).

### When carrying the rechargeable battery
Make sure to use the supplied battery carrying case (D-E555 only) or optional battery carrying case (supplied with the rechargeable battery).
If you carry the rechargeable battery with a metal object, short circuit, smoke or fire may occur.

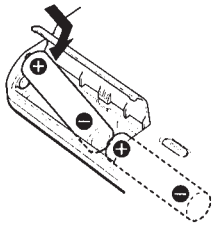
*Notes*
• Charging time varies depending on how the rechargeable battery is used.
• If the battery is new or has not been used for a long time, it may not be charged completely until you charge and discharge it several times.
• If the battery life becomes shorter by about half, replace it with Sony NH-DM2AA/NC-DMAA rechargeable battery. Do not use any other rechargeable battery.

## Using dry batteries

Insert the batteries properly in the same way as the rechargeable batteries.

**1** Disconnect the AC power adaptor and open the lid of the battery compartment.

**2** Insert two LR6 (size AA) alkaline batteries by matching the ⊕ and ⊖ to the diagram inside the battery compartment and close the lid.



*Note*
• Do not use manganese batteries for this player.

### To take out the dry batteries
Take out the batteries properly in the same way as the rechargeable batteries.

### When to replace the dry batteries
When the battery becomes weak, ▭ indication appears in the display. If the batteries are used up, "Lo batt" appears in the display. Replace all the batteries with new ones.

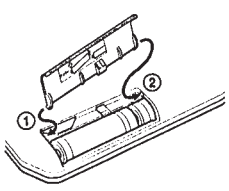
*Notes*
• Do not charge the dry batteries.
• Do not mix new batteries with old ones.
• Do not use different types of batteries together.
• When the batteries are not to be used for a long time, remove them.
• If the battery leakage occurs, wipe off any deposit in the battery compartment, and install new batteries.

### Battery life (approx. hours) (EIAJ*)
Battery life varies depending on how the player is used.

| When using | ESP function off | on |
|---|---|---|
| Two NH-DM2AA (charged for about 4 hours**) | 12 | 11 |
| Two NC-DMAA (charged for about 4 hours**) | 7 | 6 |
| Two Sony alkaline batteries LR6SG | 20 | 18 |

*Measured value by the standard of EIAJ (Electronic Industries Association of Japan) (When you use the player on a flat and stable place; When you do not use the optical digital connecting cord)
**Charging time varies depending on how the rechargeable battery is used.

### How to attach the battery compartment lid
If the battery compartment lid is detached by an accidental drop, excessive force, etc., attach it as illustrated in the numbered order.




# ►Additional Information

## Precautions

### On safety
• Should any solid objects or liquid fall into the player, unplug it and have it checked by qualified personnel before operating it any further.
• Do not put any foreign objects in the DC IN 4.5 V (external power input) jack.

### On power sources
• When you are not using the player for a long time, disconnect all power sources from the player.

### On the AC power adaptor
• Use only the supplied AC power adaptor. If your player is not supplied with it, use AC-E45HG AC power adaptor. Do not use any other AC power adaptor.

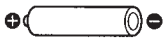
Polarity of the plug

• To unplug the AC power adaptor from the wall outlet, grasp the adaptor itself, do not pull its cord.

### On dry and rechargeable batteries
This player is designed so that it cannot charge any other rechargeable batteries or dry batteries for safety reasons.

Rechargeable batteries NH-DM2AA/NC-DMAA

Other rechargeable batteries or dry batteries



When you replace the rechargeable batteries with new ones, make sure to use the NH-DM2AA/NC-DMAA rechargeable batteries.

• Do not throw the batteries into fire.
• Do not carry the batteries with coins or other metallic objects. It can generate heat if the positive and negative terminals of the battery are accidentally contacted by a metallic object.
• Do not mix rechargeable batteries with dry batteries.

### On the player
• Keep the lens on the player clean and do not touch it. If you do so, the lens may be damaged and the player will not operate properly.
• Do not put any heavy object on top of the player. The player and the CD may be damaged.
• Do not leave the player in a location near heat sources, or in a place subject to direct sunlight, excessive dust or sand, moisture, rain, mechanical shock, unleveled surface, or in a car with its windows closed.
• If the player causes interference to the radio or television reception, turn off the player or move it away from the radio or television.
• Do not wrap the player in a cloth or blanket during use as it may cause malfunction or serious accidents.

### On headphones/earphones
*Road safety*
Do not use headphones/earphones while driving, cycling, or operating any motorized vehicle. It may create a traffic hazard and is illegal in some areas. It can also be potentially dangerous to play your headsets at high volume while walking, especially at pedestrian crossings. You should exercise extreme caution or discontinue use in potentially hazardous situations.

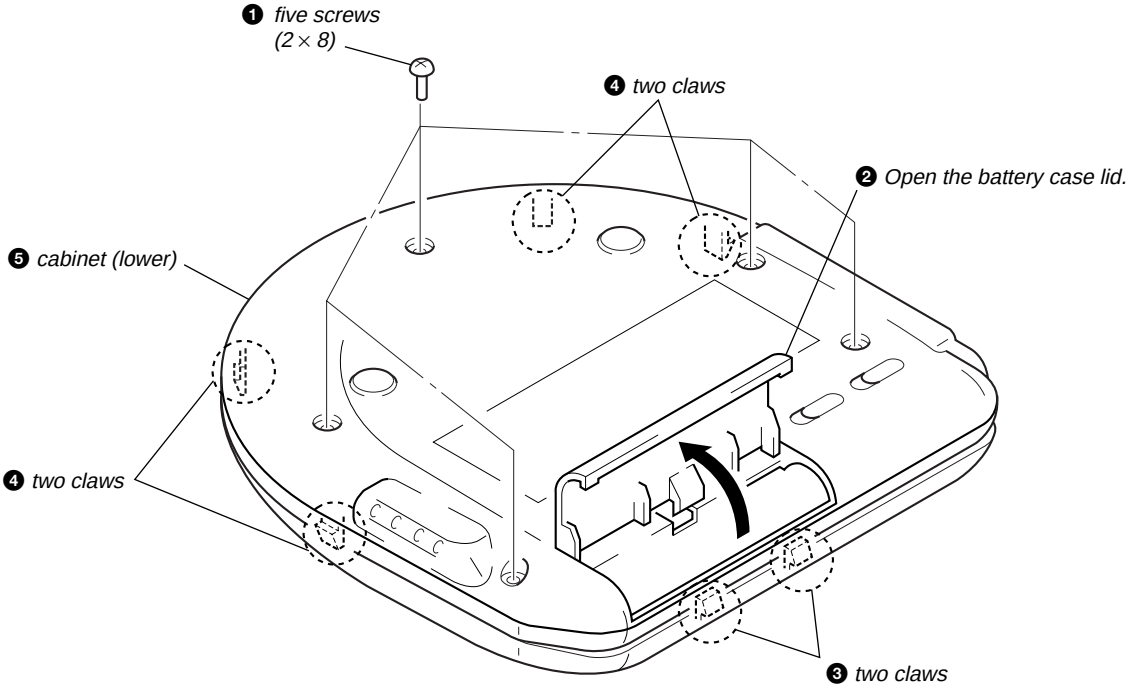
*Preventing hearing damage*
Avoid using headphones/earphones at high volume. Hearing experts advise against continuous, loud and extended play. If you experience a ringing in your ears, reduce volume or discontinue use.

*Caring for others*
Keep the volume at a moderate level. This will allow you to hear outside sounds and to be considerate to the people around you.

# SECTION 3
# DISASSEMBLY

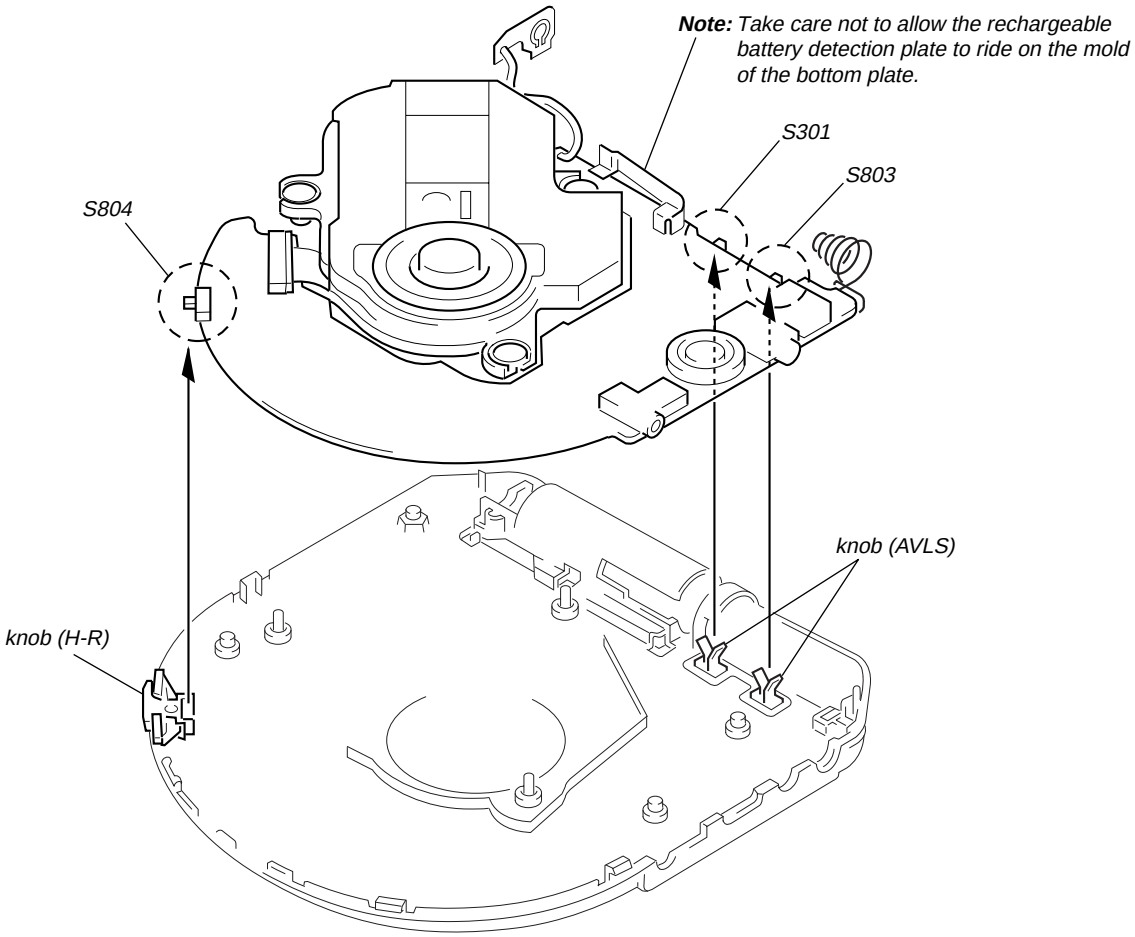
**Note:** Follow the disassembly procedure in the numerical order given.

## CABINET (LOWER)




## INSTALLATION MAIN BOARD

On installation MAIN board adjust the S301, 803, 804, and knob (H-R, AVLS).

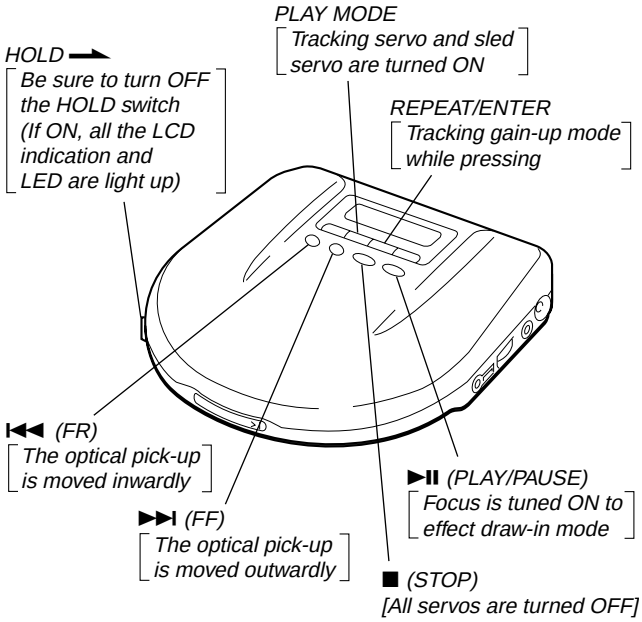

**Note:** Take care not to allow the rechargeable battery detection plate to ride on the mold of the bottom plate.
S301
S803
S804
knob (AVLS)
knob (H-R)

# SECTION 4
# SERVICE MODE

**Service Mode (Service program)**

The equipment is provided with a service program built in the microcomputer, like conventional models.

Service program operation methods are described in the following.


PLAY MODE
[Tracking servo and sled servo are turned ON]
HOLD
[Be sure to turn OFF the HOLD switch (If ON, all the LCD indication and LED are light up)]
REPEAT/ENTER
[Tracking gain-up mode while pressing]
⏮ (FR)
[The optical pick-up is moved inwardly]
⏯ (PLAY/PAUSE)
[Focus is tuned ON to effect draw-in mode]
⏭ (FF)
[The optical pick-up is moved outwardly]
■ (STOP)
[All servos are turned OFF]

Descriptions in [ ] indicate major operations in the service mode. For more informatrion, see Step 2.

***Fig. 1 Layout of each key***

**• Step 1 (Service mode setting methods)**

1. Turn OFF the HOLD switch with external power supply disconnected. (power is not applied to the set)
2. Solder across the TEST terminals (TAP802). (pin ⑭, IC801 (ESPSL/TEST) is grounded)
3. Connect an external power supply.

   Thus, the set is switched to the service mode.

**• Step 2 (Operation in the service mode)**

1. Once the service mode is effected, the LCD displays 5 indications each of which is repeatedly displayed.
   However, the following operations can be activated even if LCD indication is effected.
2. By pressing the ⏭ or ⏮ key, the optical pick-up is movable inwardly or outwardly. However, if this is activated, tracking servo and sled servo are turned OFF, so it can be turned ON by pressing the PLAY MODE key if required.
3. By pressing the REPEAT/ENTER key, the tracking gain-up mode becomes active.
4. By pressing the ⏯ key, focus is turned ON from focus searching while entering CLV-S. (draw-in mode)
   Without disc, focus searching is repeated continuously.
5. By pressing the PLAY MODE key, tracking servo, sled servo and CLV-A (servo in PLAY) are turned ON.
6. When step 4 and 5 are performed, playing begins. No muting is ON in the service mode.
7. By pressing the ■ key, all servos (focus, tracking and sled) are turned OFF. However, the disc motor revolves for a while by inertia.

**• Step 3 (Resetting of service mode)**

1. Be sure to disconnect the external power supply and remove the solder bridge at the TEST terminals connected before in setting.
2. The set thus becomes available for normal operation.

**– MAIN BOARD** (Side A) **–**

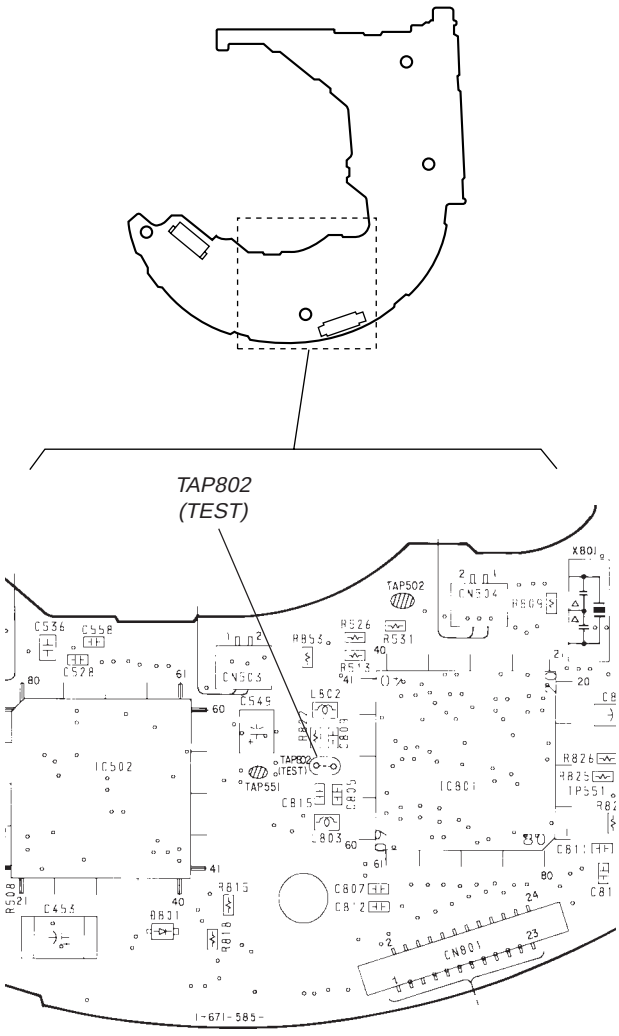



***Fig. 2 Location of Test terminal***

# SECTION 5
# ELECTRICAL ADJUSTMENTS

## Precautions for Adjustment

1. Before beginning adjustment, set the equipment to service mode.
   After the completion of adjustment, be sure to reset the service mode.
   For more information, see "Service Mode (service program) " on page 8.
2. Perform adjustments in the order given.
3. Use YEDS-18 disc (Part No.: 3-702-101-01) unless otherwise indicated.
4. Power supply voltage requirement: DC2.5 V in battery terminal
   VOLUME knob : Minimum
   RESUME switch : OFF
   ESP switch : OFF
   AVLS switch : NORMAL
   HOLD switch : OFF

## Before Beginning Adjustment

Set the equipment to service mode (See page 8) and check the following. If there is an error, repair the equipment.

### • Checking of the sled motor

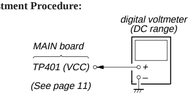
1. Open the upper panel.
2. Press the ▶▶I and I◀◀ keys and check that the optical pick-up can move smoothly without sluggishness or abnormal noise in innermost periphery → outermost periphery → innermost periphery
   ▶▶I : The optical pick-up moves outwardly.
   I◀◀ : The optical pick-up moves inwardly.

### • Checking of focus searching

1. Open the upper panel.
2. Press the ▶II key. (Focus searching operation is activated continuously)
3. Check the object lens of the optical pick-up for smooth up/down motion without sluggishness or abnormal noise.
4. Press the ■ key.
   Check that focus searching operation is deactivated. If not, again press the ■ key slightly longer.

## VCC Adjustment

**Adjustment Procedure:**




1. Set the equipment to service mode stop state. (See page 8)
2. Connect the digital voltmeter to TP401 (VCC) on the MAIN board.
3. Adjust RV401 on the MAIN board so that the reading on digital voltmeter goes 2.77 V.
   **Specifications:** 2.75 V to 2.8 V
4. After the completion of adjustment, reset service mode. (See page 8)

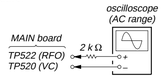
**Adjustment Location:** MAIN Board (See page 11)

## Focus bias Check

**Condition:**

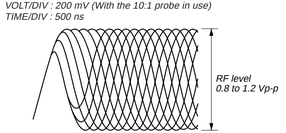
• Hold the set in horizontal state.

**Check Procedure:**




1. Set the equipment to service mode stop state. (See page 8)
2. Connect the oscilloscope to the test point TP522 (RFO) on the MAIN board.
3. Move the optical pick-up to the center by pressing the ▶▶I and I◀◀ keys.
4. Put the disc. (YEDS-18)
5. Press the ▶II key.
   From focus searching, focus is turned ON while entering CLV drawing-in mode. Tracking and sled are turned OFF.
6. Press the PLAY MODE key. (Both tracking and sled are turned ON)
7. Check the oscilloscope waveform is as shown below.
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.

***RF Signal Reference Waveform (Eye Pattern)***




*To watch the eye pattern, set the oscilloscope to AC range and increase the vertical sensitivity of the oscilloscope for easy watching.*

8. Stop revolving of the disc motor by pressing the ■ key.
9. After the completion of adjustment, reset service mode. (See page 8)

**Check Location:** MAIN Board (See page 11)

## Focus/Tracking Gain Adjustment

A servo analayzer is necessary in order to perform this adjustment exactly.

> However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the optical pick-up follow-up relative to mechanical noise and mechanical shock when the 2-axis device operates. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is rased, the noise when 2-axis device operates increase.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

This adjustment has to be performed upon replacing any of the following parts.

- Optical pick-up
- RV503 (Focus gain VR)
- RV502 (Tracking gain VR)

> Normally, be sure not to move RV503 (focus gain VR) and RV502 (tracking gain VR).

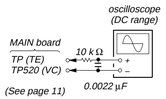
**Adjustment procedure:**

**– Focus Gain Adjustment –**

This adjustment is not performed.
If focus gain VR RV503 is turned, set to mechanical center.
**Adjustment Location:** MAIN Board (See page 11)

**– Tracking Gain Adjustment –**

(perform at normal operation)




1. Place the optical pick-up level, horizontally. (If the optical pick-up is not level, the 2-axis device will be weighted and adjustment cannot be done)
2. Connect the oscilloscope to TP (TE) and TP520 (VC) on the MAIN board.
3. Set the disc (YEDS-18) and press the ▶II key.
4. Turn RV502 slightly clockwise (tracking gain drops) and obtain a waveform with a fundamental wave (waveform has large waves) as in Figure 1.
5. Turn RV502 slowly counterclockwise (tracking gain rises) until the fundamental wave disappears (no large waves) as in Figure 2.
6. Set RV502 to the position about 30˚ counterclockwise form the position obtained in step 5. If RV502 contact point is more than 90˚ counterclockwise from mechanical center, tracking gain is too high. In this case, readjust from step 4.
7. Press ▶▶I or I◀◀ key and observe the 100 track jump waveform. Check that no traverse waveform appears for both ▶▶I or I◀◀ directions. (See Figures 3 and 4)
   It is acceptable if the traverse waveform appears only now and then, but if it appears constantly, raise tracking gain slightly and check step 7 again.
8. Check that there is not abnormal amount of operation noise (white noise) from the 2-axis device. If there is, tracking gain is too high, readjust starting with step 4.

The waveforms are those measured with the oscilloscope set as shown below.

- VOLT/DIV: 500 mV
- TIME/DIV: 5 ms

- Waveform when tracking gain is lowered.
  Fundamental wave appears. (large waves)

***Fig. 1***

- Waveform when fundamental wave disappears. (no large waves)

***Fig. 2***

- Waveform with no traverse waveform during 100 track jump. (Brake application is smooth because of adjustment)

***Fig. 3***

- Waveform with traverse waveform during 100 track jump. (Brake application is poor because of adjustment)

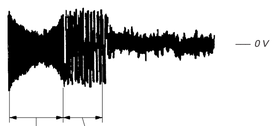
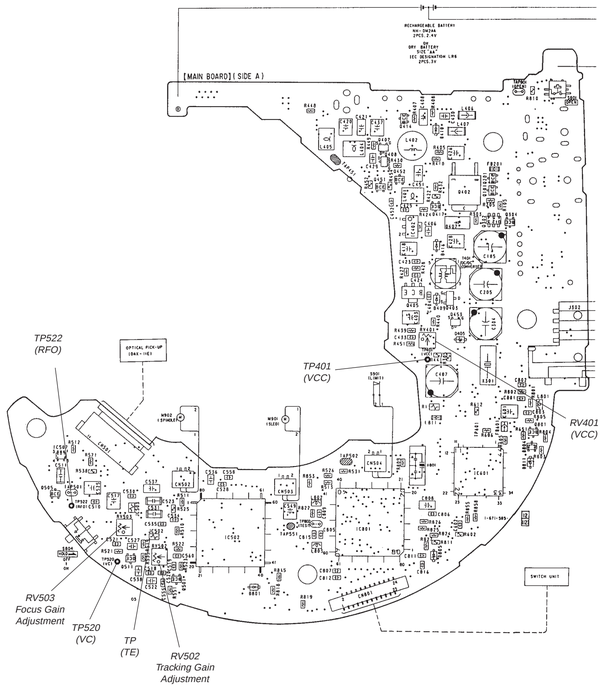



***Fig. 4***

**Adjustment Location:** MAIN Board (See page 11)

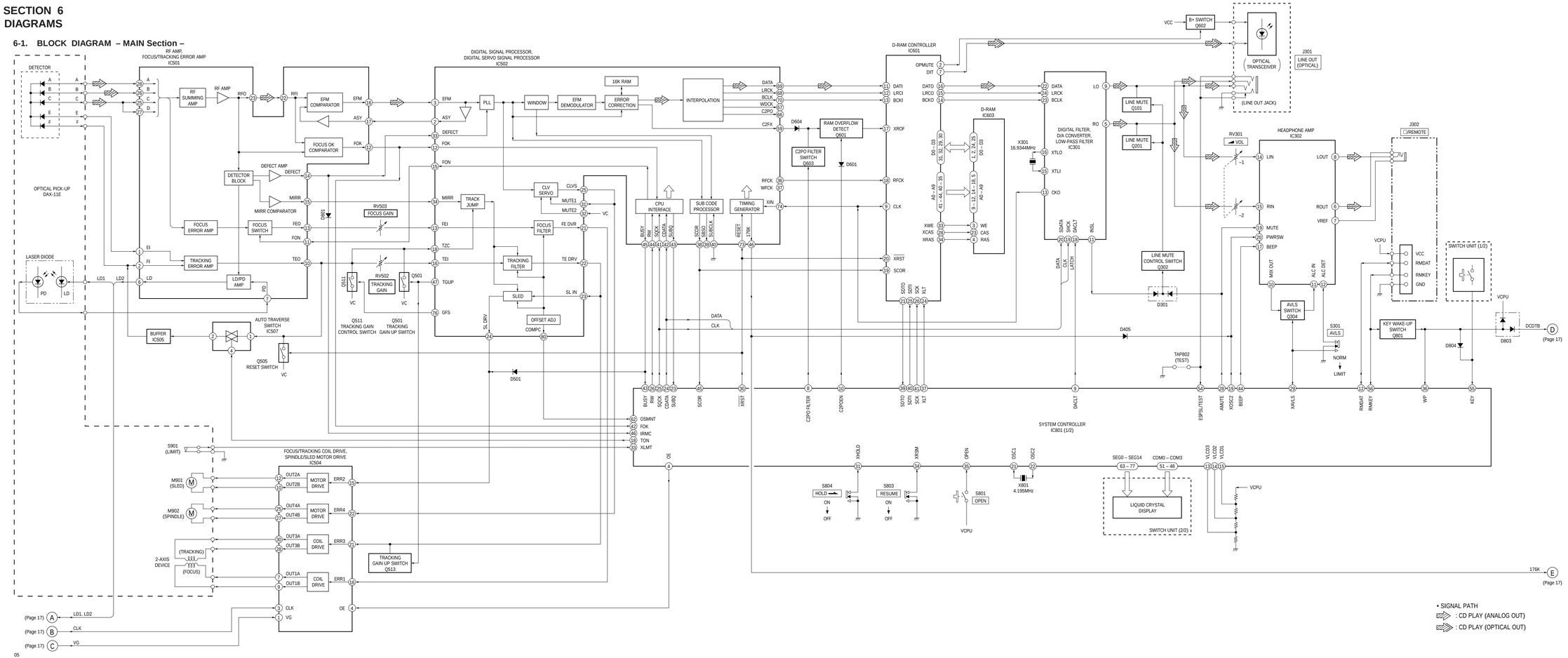
**Adjustment and Checking Location:**

**– MAIN BOARD** (Side A) **–**

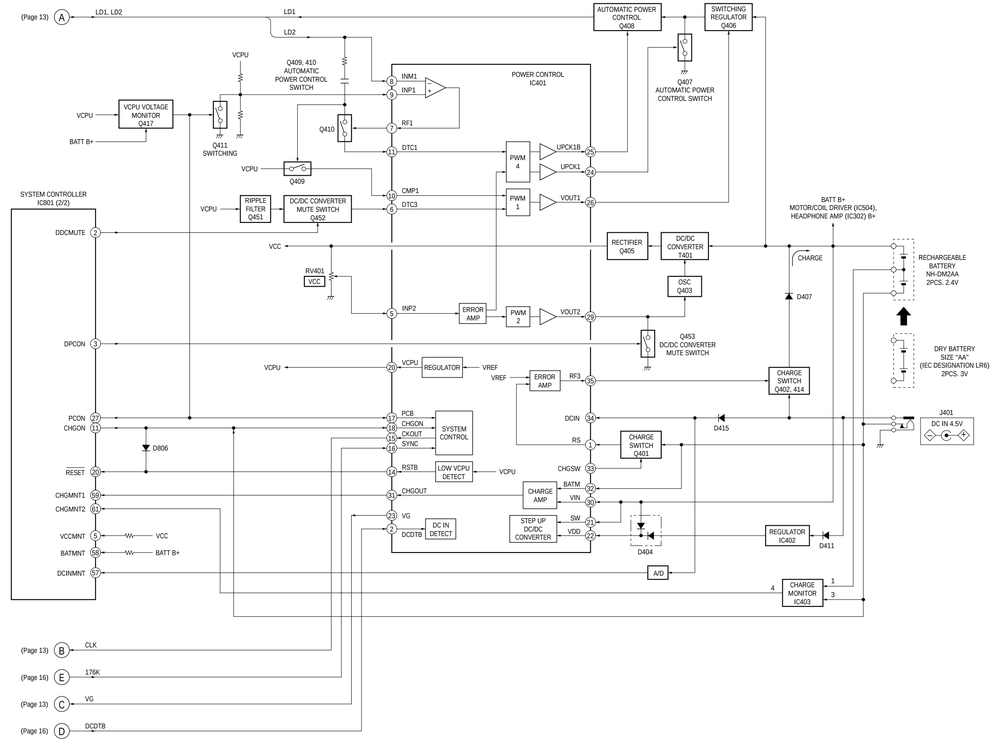


# SECTION 6
# DIAGRAMS

## 6-1. BLOCK DIAGRAM – MAIN Section –



## 6-2. BLOCK DIAGRAM – POWER SUPPLY Section –








## 6-3. IC PIN FUNCTION DESCRIPTION

**• MAIN BOARD IC801 MC68HC05L24-SC440488CFU (SYSTEM CONTROLLER)**

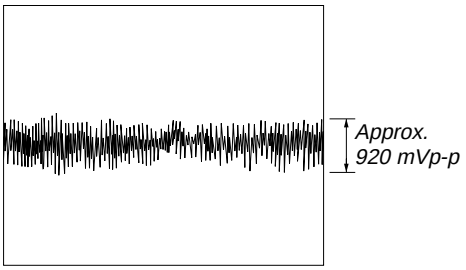
| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | VDD | — | Power supply terminal (+3V) |
| 2 | DDCMUTE | O | DC/DC converter muting control signal output terminal |
| 3 | DPCON | O | DC/DC converter on/off selection signal output terminal |
| 4 | OE | O | Output enable signal output to the MPC17A51VMEL (IC504) "L" active |
| 5 | VCCMNT | I | Main DC/DC converter voltage (+2.75V) monitor input (A/D input) |
| 6 | MDL SL | I | Destination setting terminal Fixed at "L" in this set |
| 7 | LIGHT | O | Back light control signal output to the liquid crystal display on the switch unit<br>"H": back light on Not used (open) |
| 8 | C2PO FILTER | O | C2PO (error condition monitor) filter on/off control signal output terminal |
| 9 | DACLT | O | Serial data latch pulse signal output to the D/A converter (IC301) |
| 10 | C2POEN | O | C2PO (error condition monitor) signal control output terminal<br>"L": stop mode, "H": searching |
| 11 | CHGON | O | Charging on output to the MPC18A26VMEL (IC401) "L": charge on |
| 12 | RMDAT | I/O | Communication data in/out for the liquid crystal display with remote commander |
| 13 | VLCD3 | O | Power supply output for the liquid crystal display bias |
| 14 | VLCD2 | O | |
| 15 | VLCD1 | O | |
| 16 | VSS | — | Ground terminal |
| 17 | VPP | — | Power supply terminal (0V) |
| 18 | TON | O | Traverse on/off control signal output to the auto traverse circuit |
| 19 | XOSC2 | O | Standby control signal output to the headphone amplifier (IC302) |
| 20 | $\overline{\text{RESET}}$ | I | System reset signal input from the MPC18A26VMEL (IC401) "L": reset<br>For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H" |
| 21 | OSC1 | I | Main system clock input terminal (4.195 MHz) |
| 22 | OSC2 | O | Main system clock output terminal (4.195 MHz) |
| 23 | SUBQ | I | Sub-code Q data signal input from the BU9325BKS (IC502) |
| 24 | CDATA | O | Serial data output to the D/A converter (IC301) and BU9325BKS (IC502) |
| 25 | SQCK | O | Sub-code Q data reading clock signal output to the D/A converter (IC301) and BU9325BKS (IC502) |
| 26 | RW | O | Data read/write selection signal output to the BU9325BKS (IC502)<br>"L": reading mode, "H": writing mode |
| 27 | PCON | O | Power on/off control signal output to the MPC18A26VMEL (IC401)<br>"L": power on, "H": power off |
| 28 | AMUTE | O | Analog muting on/off control signal output terminal "H": muting on |
| 29 | XAVLS | I | AVLS (Automatic Volume Limiter System) switch (S301) input terminal<br>"L": limit mode, "H": normal mode |
| 30 | $\overline{\text{XRST}}$ | O | System reset signal output to the BU9325BKS (IC502) and D-RAM controller (IC601)<br>"L": reset |
| 31 | XHOLD | I | HOLD switch (S804) input terminal "L": hold on, "H": hold off |
| 32 | XRCHG | I | Rechargeable battery pack detection switch input terminal "L": rechargeable battery pack in<br>Not used (open) |
| 33 | XLMT | I | Sled limit-in detection switch (S901) input terminal<br>The optical pick-up is inner position when "L" |
| 34 | XRSM | I | RESUME switch (S803) input terminal "L": resume on, "H": resume off |
| 35 | OPEN | I | CD door open/close detection switch (S801) input terminal<br>The stop status is reset with the falling edge of input signal |
| 36 | WP | I | Wake-up control signal input terminal<br>The stop status is reset with the falling edge of input signal |



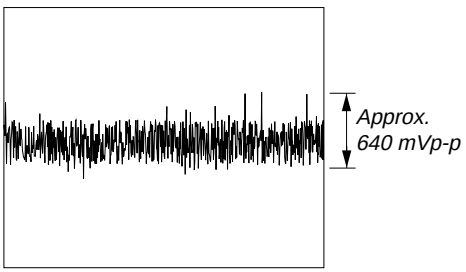
| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 37 | XLT | O | Serial data latch pulse signal output to the D-RAM controller (IC601) (for ESP) |
| 38 | XSOE | O | Serial data output enable signal output terminal (for ESP) Not used (pull up) |
| 39 | SDTO | I | Serial data input from the D-RAM controller (IC601) (for ESP) |
| 40 | SDTI | O | Serial data output to the D-RAM controller (IC601) (for ESP) |
| 41 | SCK | O | Serial data transfer clock signal output to the D-RAM controller (IC601) (for ESP) |
| 42 | FOK | I | Focus OK signal input from the RF amplifier (IC501) "L": NG, "H": OK |
| 43 | BUSY | I | Busy signal input from the BU9325BKS (IC502) "L": track jump mode, "H": servo loop on |
| 44 | BEEP | O | Beep sound output to the headphone amplifier (IC302) |
| 45 | SCOR | I | Sub-code sync (S0+S1) detection signal input from the BU9325BKS (IC502) |
| 46 | IRMC | I | Attenuate display selection signal input from the RF amplifier (IC501) |
| 47 | VDD | — | Power supply terminal (+3V) |
| 48 to 51 | COM3 to COM0 | O | Common drive signal output to the liquid crystal display on the switch unit |
| 52 | VREFH | I | Reference voltage input terminal (+3V) (for A/D converter) |
| 53 | VREFL | I | Reference voltage input terminal (0V) (for A/D converter) |
| 54 | ESPSL/TEST | I | Service mode setting terminal "L": service mode, Normally: fixed at "H" |
| 55 | KEY | I | Key input from the switch unit (A/D input) |
| 56 | RMKEY | I | Key input from the headphone with remote commander (A/D input) |
| 57 | DCINMNT | I | DC in voltage detection input terminal (A/D input) Also used for DC IN detection |
| 58 | BATMNT | I | Battery voltage detection input terminal<br>Also used for rechargeable battery/dry battery detection |
| 59 | CHGMNT1 | I | Battery charging voltage detection input from the MPC18A26VMEL (IC401) |
| 60 | VSS | — | Ground terminal |
| 61 | CHGMNT2 | I | Battery voltage detection input terminal (A/D input)<br>Also used for rechargeable battery/dry battery detection |
| 62 | OSMNT | I | DSP offset voltage adjustment voltage monitor input from the BU9325BKS (IC502) |
| 63 to 77 | SEG0 to SEG14 | O | Segment drive signal output to the liquid crystal display on the switch unit |
| 78, 79 | SEG15, SEG16 | O | Segment drive signal output terminal Not used (open) |
| 80 | X9326 | I/O | Error correction "L": quadruple correction, "H": double correction<br>Fixed at "H" in this set |

**• Waveforms**

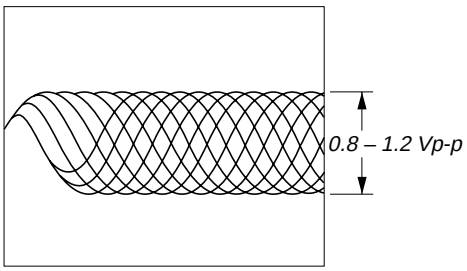
❶ IC501 ⑩ (TEO) (PLAY MODE)
500 mV/DIV, 1 ms/DIV



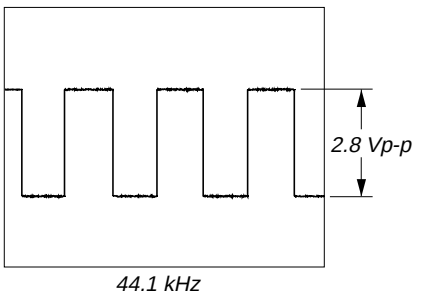

❷ IC501 ⑬ (FEO) (PLAY MODE)
500 mV/DIV, 10 ms/DIV



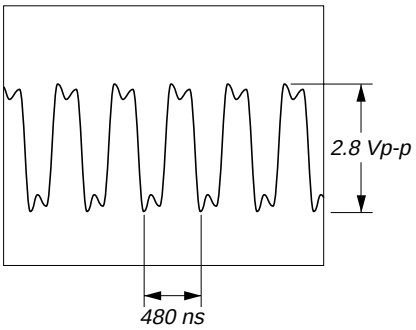

❸ IC501 ㉓ (RFO) (PLAY MODE)
500 mV/DIV, 1 µs/DIV



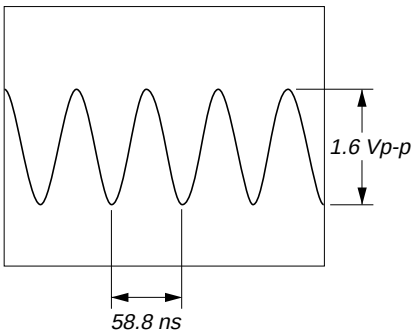

❹ IC502 ㊽ (LRCK) (PLAY MODE)
1 V/DIV, 10 µs/DIV



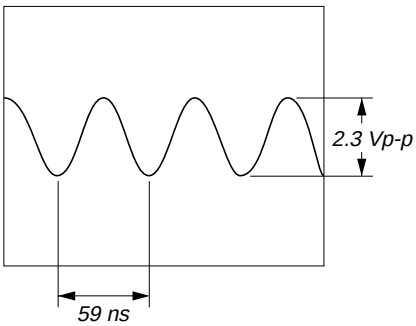

❺ IC502 ⑦⓪ (BCLK)
1 V/DIV, 2 µs/DIV



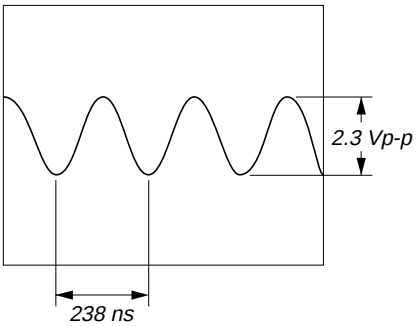

❻ IC502 ⑦④ (XIN)
500 mV/DIV, 20 ns/DIV



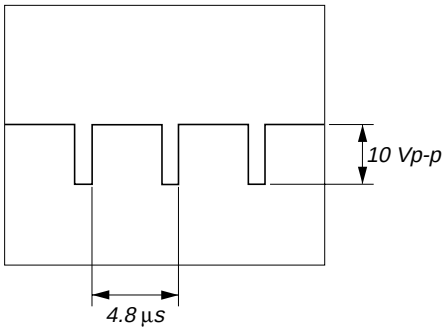

❼ IC301 ⑯ (XTLO)
1 V/DIV, 20 ns/DIV



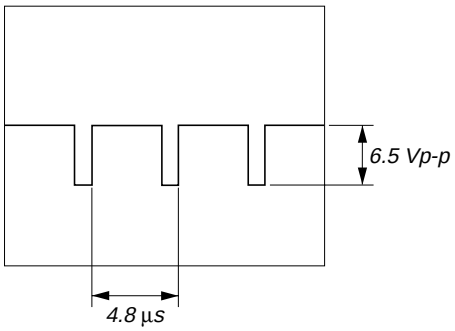

❽ IC801 ㉑ (OSC1)
1 V/DIV, 100 ns/DIV



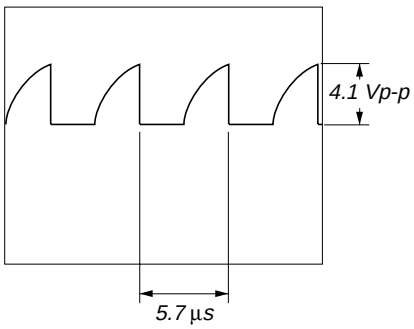

❾ Q405 Ⓑ
5 V/DIV, 2 µs/DIV




❿ Q405 Ⓒ
2 V/DIV, 2 µs/DIV

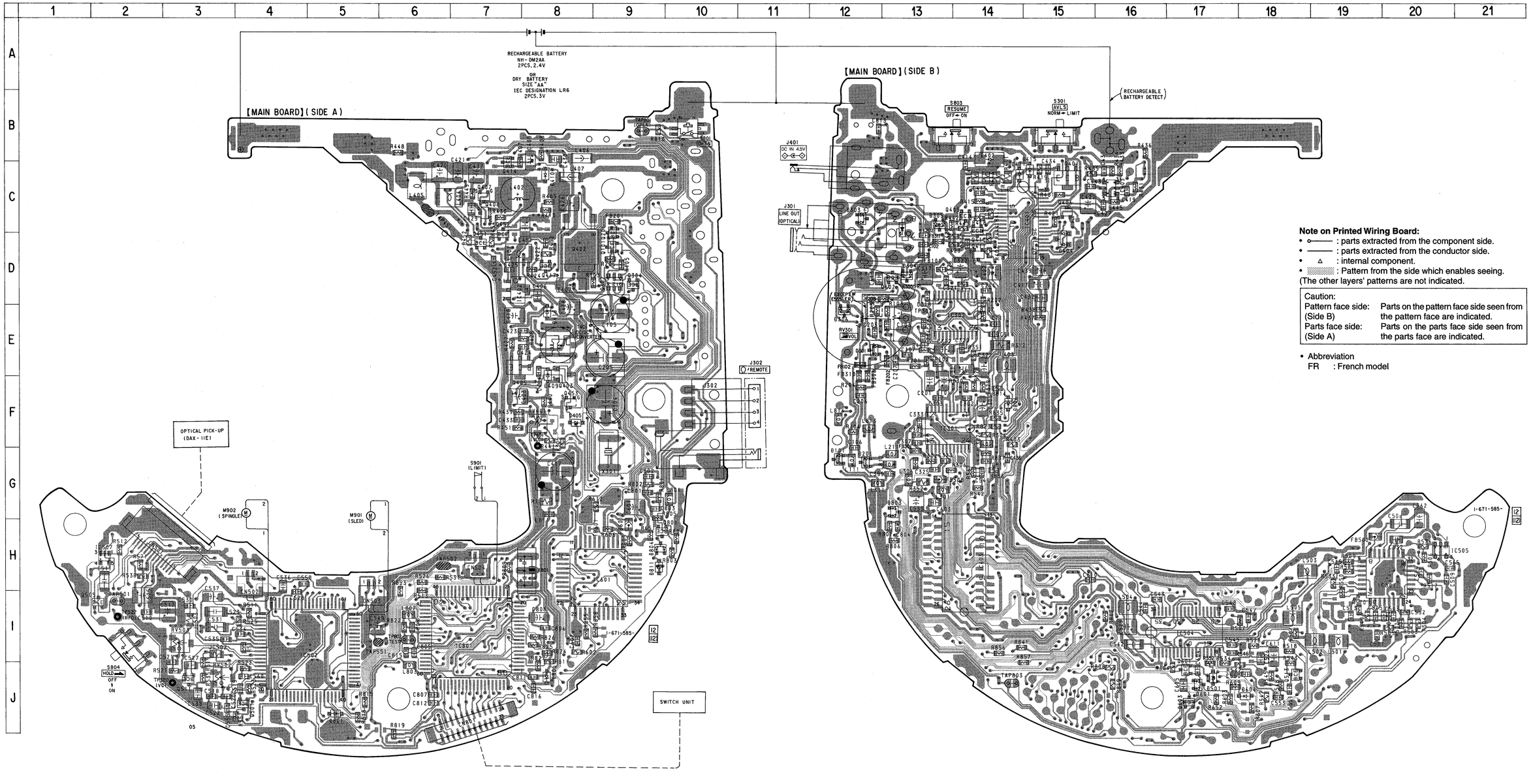



⓫ IC401 ⑮ (CKOUT)
2 V/DIV, 2 µs/DIV



• **Semiconductor Location**

| Ref. No. | Location |
|---|---|
| D101 | G-12 |
| D201 | G-12 |
| D301 | E-12 |
| D303 | C-12 |
| D304 | D-13 |
| D305 | C-13 |
| D306 | D-12 |
| D402 | B-14 |
| D404 | D-15 |
| D405 | F-8 |
| D407 | D-8 |
| D409 | E-8 |
| D410 | C-8 |
| D411 | C-14 |
| D415 | C-15 |
| D416 | E-8 |
| D501 | J-17 |
| D601 | J-17 |
| D604 | J-18 |
| D801 | J-5 |
| D803 | G-13 |
| D804 | H-9 |
| D805 | J-8 |
| D806 | F-14 |
| D811 | H-9 |
| IC301 | F-13 |
| IC302 | E-14 |
| IC401 | C-14 |
| IC402 | D-7 |
| IC403 | C-16 |
| IC501 | H-20 |
| IC502 | I-4 |
| IC504 | I-17 |
| IC505 | H-20 |
| IC507 | H-2 |
| IC601 | H-9 |
| IC603 | H-14 |
| IC801 | I-7 |
| J301 | D-11 |
| Q101 | D-9 |
| Q201 | C-9 |
| Q302 | D-9 |
| Q304 | D-9 |
| Q401 | C-15 |
| Q402 | D-8 |
| Q403 | E-8 |
| Q405 | E-7 |
| Q406 | C-15 |
| Q407 | C-7 |
| Q408 | C-7 |
| Q409 | C-14 |
| Q410 | C-14 |
| Q411 | D-14 |
| Q414 | B-7 |
| Q417 | D-8 |
| Q451 | D-7 |
| Q452 | C-7 |
| Q453 | F-8 |
| Q501 | J-4 |
| Q505 | I-2 |
| Q511 | J-3 |
| Q513 | J-18 |
| Q601 | J-17 |
| Q602 | D-13 |
| Q603 | J-17 |
| Q801 | H-9 |




**Note on Printed Wiring Board:**

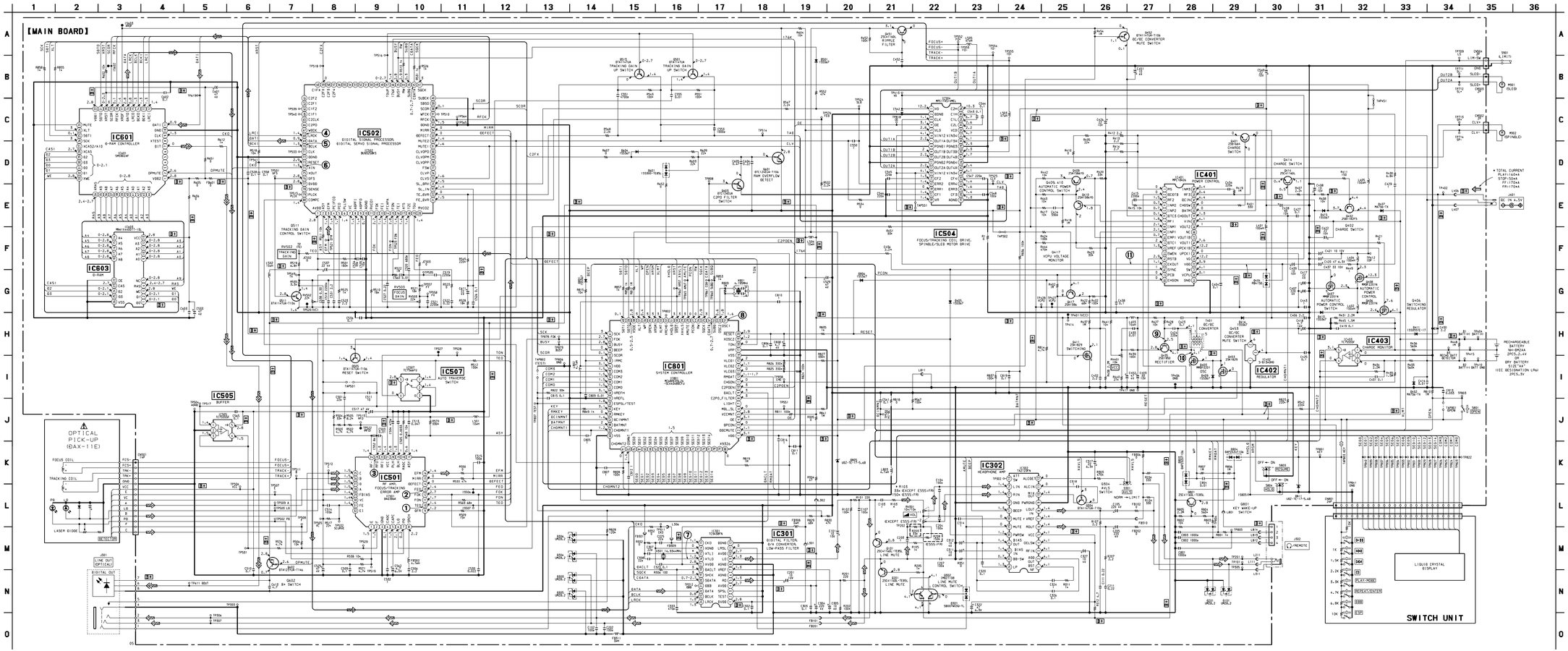
- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.

| Caution: | |
|---|---|
| Pattern face side: (Side B) | Parts on the pattern face side seen from the pattern face are indicated. |
| Parts face side: (Side A) | Parts on the parts face side seen from the parts face are indicated. |

• Abbreviation
FR : French model

## 6-5. SCHEMATIC DIAGRAM • See page 21 for Waveforms. • See page 29 for IC Block Diagrams.




**Note on Schematic Diagram:**

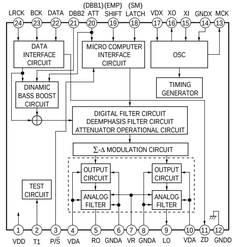
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

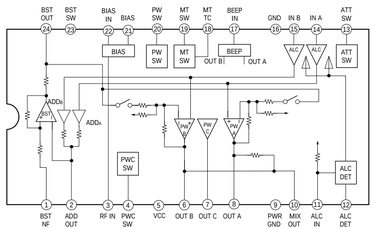
- B+ : B+ Line.
- : adjustment for repair.
- Power voltage is dc 4.5 V and fed with regulated dc power supply from external power voltage jack.
- Voltages and waveforms are dc with respect to ground under conditions in service mode.
  no mark : CD PLAY
  ※ : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD PLAY (ANALOG OUT)
  ⇨ : CD PLAY (OPTICAL OUT)
- Abbreviation
  FR : French model

• **IC Block Diagrams**

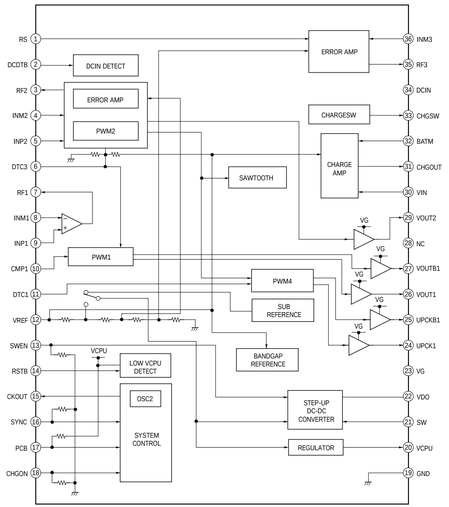
## IC301 TC9438FNEL


LRCK BCK DATA DBB2 (DBB1)(EMP) (SM) ATT SHIFT LATCH VDX XO XI GNDX MCK
DATA INTERFACE CIRCUIT
MICRO COMPUTER INTERFACE CIRCUIT
OSC
DINAMIC BASS BOOST CIRCUIT
TIMING GENERATOR
DIGITAL FILTER CIRCUIT DEEMPHASIS FILTER CIRCUIT ATTENUATOR OPERATIONAL CIRCUIT
ΣΔ MODULATION CIRCUIT
OUTPUT CIRCUIT
OUTPUT CIRCUIT
ANALOG FILTER
ANALOG FILTER
TEST CIRCUIT
VDD TI P/S VDA RO GNDA VR GNDA LO VDA ZD GNDD

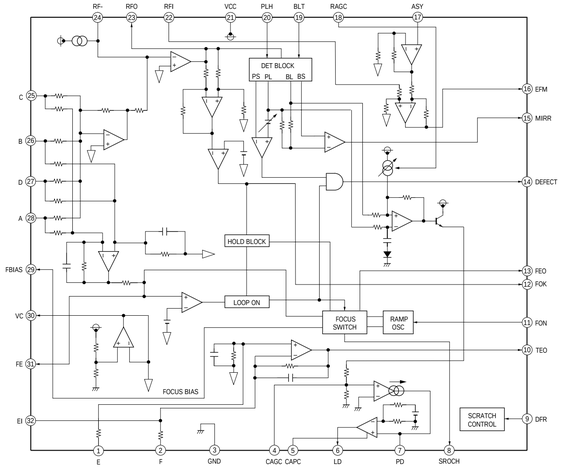
## IC302 TA2120FN (EL)


BST OUT BST SW BIAS IN BIAS PW SW MT SW MT TC BEEP IN GND IN B IN A ATT SW
BIAS
PW SW
MT SW
BEEP
OUT B OUT A
ALC ALC ATT SW
ADDB ADDA
PWC SW
ALC DET
BST NF ADD OUT RF IN PWC SW VCC OUT B OUT C OUT A PWR GND MIX OUT ALC IN ALC DET

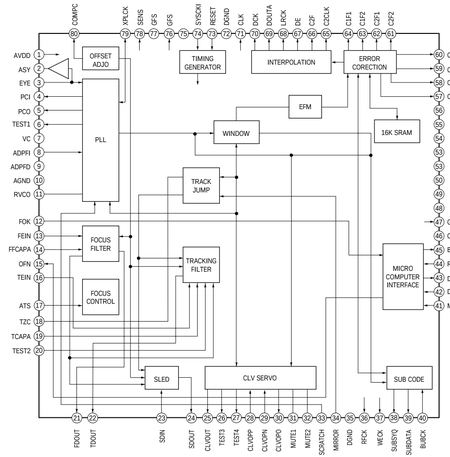
## IC401 MPC18A26VMEL



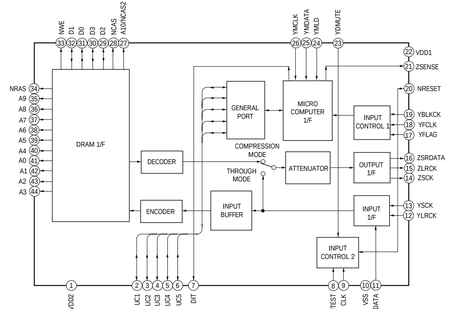

## IC501 BA6386K


RF- RFO RFI VCC PLH BLT RAGC ASY
C B D A FBIAS VC FE EI
EFM MIRR DEFECT FEO FOK FON TEO DFR
DET BLOCK PS PL BL BS
HOLD BLOCK
LOOP ON
FOCUS SWITCH
RAMP OSC
FOCUS BIAS
SCRATCH CONTROL
E F GND CAGC CAPC LD PD SROCH

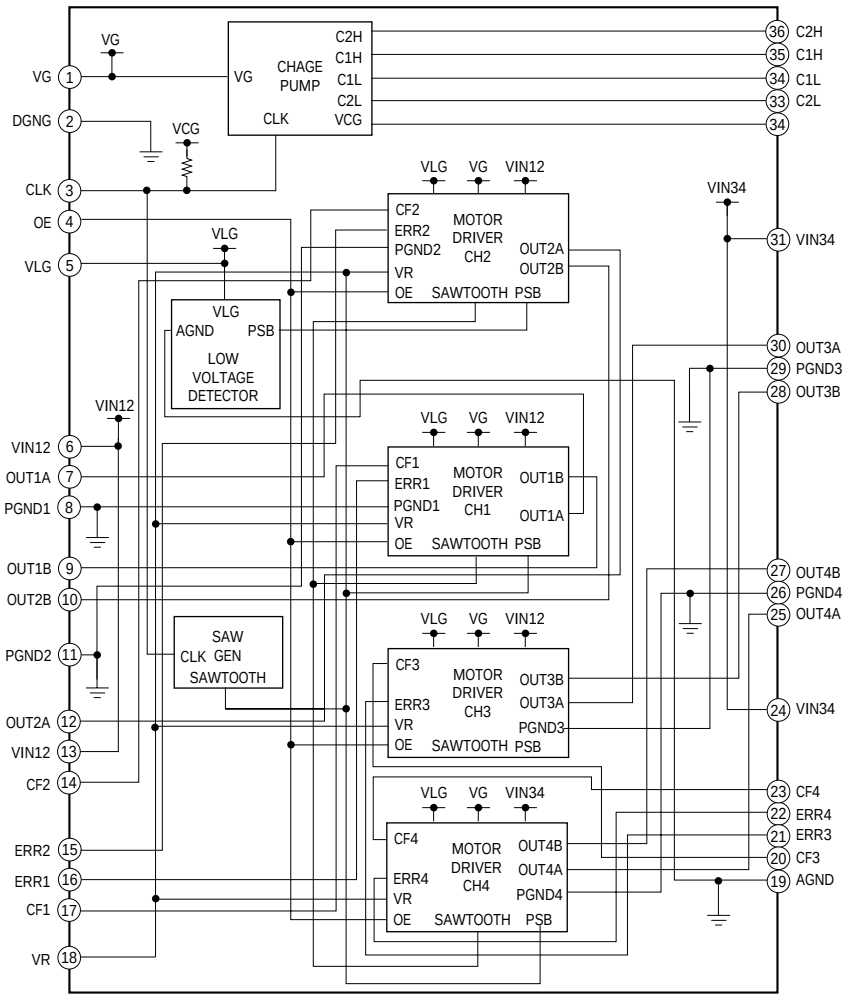
## IC502 BU9325BKS


COMPC XRLCK SENS GFS GFS SYSCKI RESET DGND CLK DCK DOUTA LRCK DE C2F C2CLK C1F1 C1F2 C2F1 C2F2
AVDD ASY EYE PCI PCO TEST1 VC ADPFI ADPFD AGND RVCO FOK FEIN FFCAPA OFN TEIN ATS TZC TCAPA TEST2
C1FX C2FX C3FX C4FX GAINUP CK176 BUSY RW DOUT DIN MCK
OFFSET ADJO
TIMING GENERATOR
INTERPOLATION
ERROR CORRECTION
PLL
EFM
WINDOW
16K SRAM
TRACK JUMP
FOCUS FILTER
TRACKING FILTER
FOCUS CONTROL
MICRO COMPUTER INTERFACE
SLED
CLV SERVO
SUB CODE
FDOUT TDOUT SDN SDOUT CLVOUT TEST3 TEST4 CLVOPP CLVOPN CLVOPO MUTE1 MUTE2 SCRATCH MIRROR DGND RFCK WECK SUBSYQ SUBDATA BUSCK

## IC601 SM5902AF



**IC504 MPC17A51VMEL**



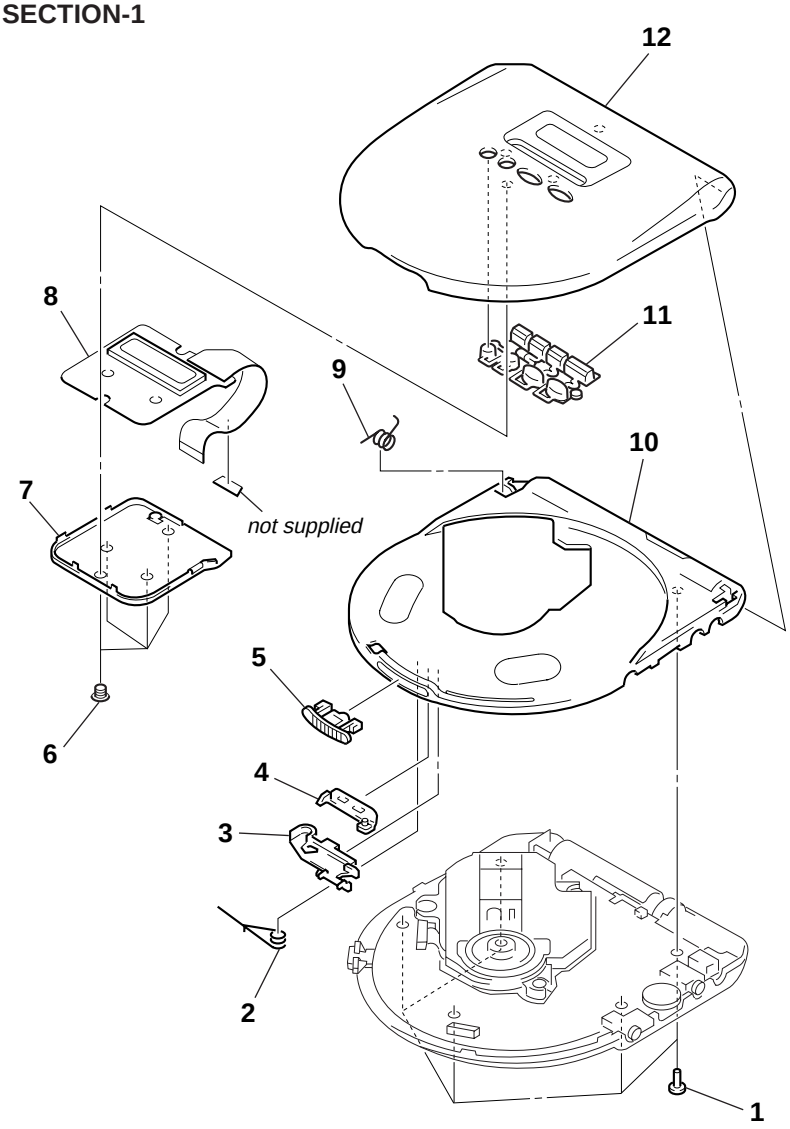
# SECTION 7
# EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation
  EE : East European model
  FR : French model
  G : German model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of the electrical parts list.

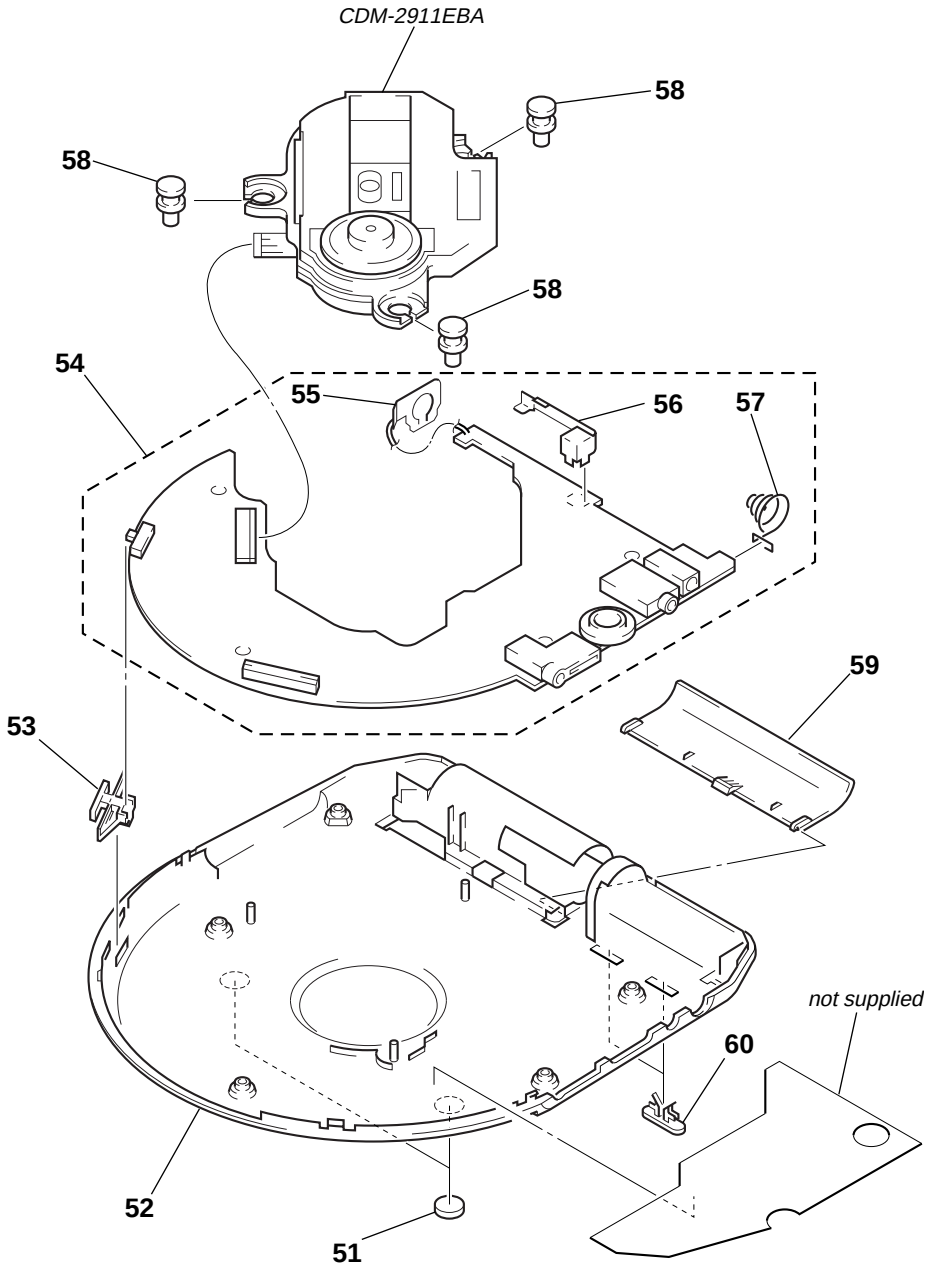
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## (1) CABINET SECTION-1




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | 4-982-491-01 | SCREW (2X8), TAPPING | |
| 2 | 4-993-128-01 | SPRING (OPEN) | |
| 3 | 4-993-125-01 | BRACKET (LOCK) | |
| 4 | 4-993-127-01 | CLAW, LOCK | |
| 5 | 4-993-126-11 | KNOB (OPEN) | |
| 6 | 3-375-114-31 | SCREW | |
| 7 | 4-211-639-01 | COVER, LID (GRAY)...(E551/E555: BLUE) | |
| 7 | 4-211-639-11 | COVER, LID (WHITE)...(E551: SILVER/ E555: SILVER, WHITE/E556CK) | |
| 8 | 1-475-997-11 | SWITCH UNIT | |
| 9 | 4-993-135-01 | SPRING (FULL OPEN) | |
| 10 | X-4950-451-1 | CABINET (UPPER) SUB ASSY | |
| 11 | 4-211-638-01 | BUTTON (CONTROL) | |
| 12 | X-4950-562-1 | LID SUB ASSY, UPPER (SILVER) (E555) | |
| 12 | X-4950-563-1 | LID SUB ASSY, UPPER (BLUE) (E555) | |
| 12 | X-4950-564-1 | LID SUB ASSY, UPPER (SILVER) (E556CK) | |
| 12 | X-4951-264-1 | LID SUB ASSY, UPPER (WHITE) (E555) | |
| 12 | X-4951-265-1 | LID SUB ASSY, UPPER (SILVER) (E551) | |
| 12 | X-4951-266-1 | LID SUB ASSY, UPPER (BLUE) (E551) | |

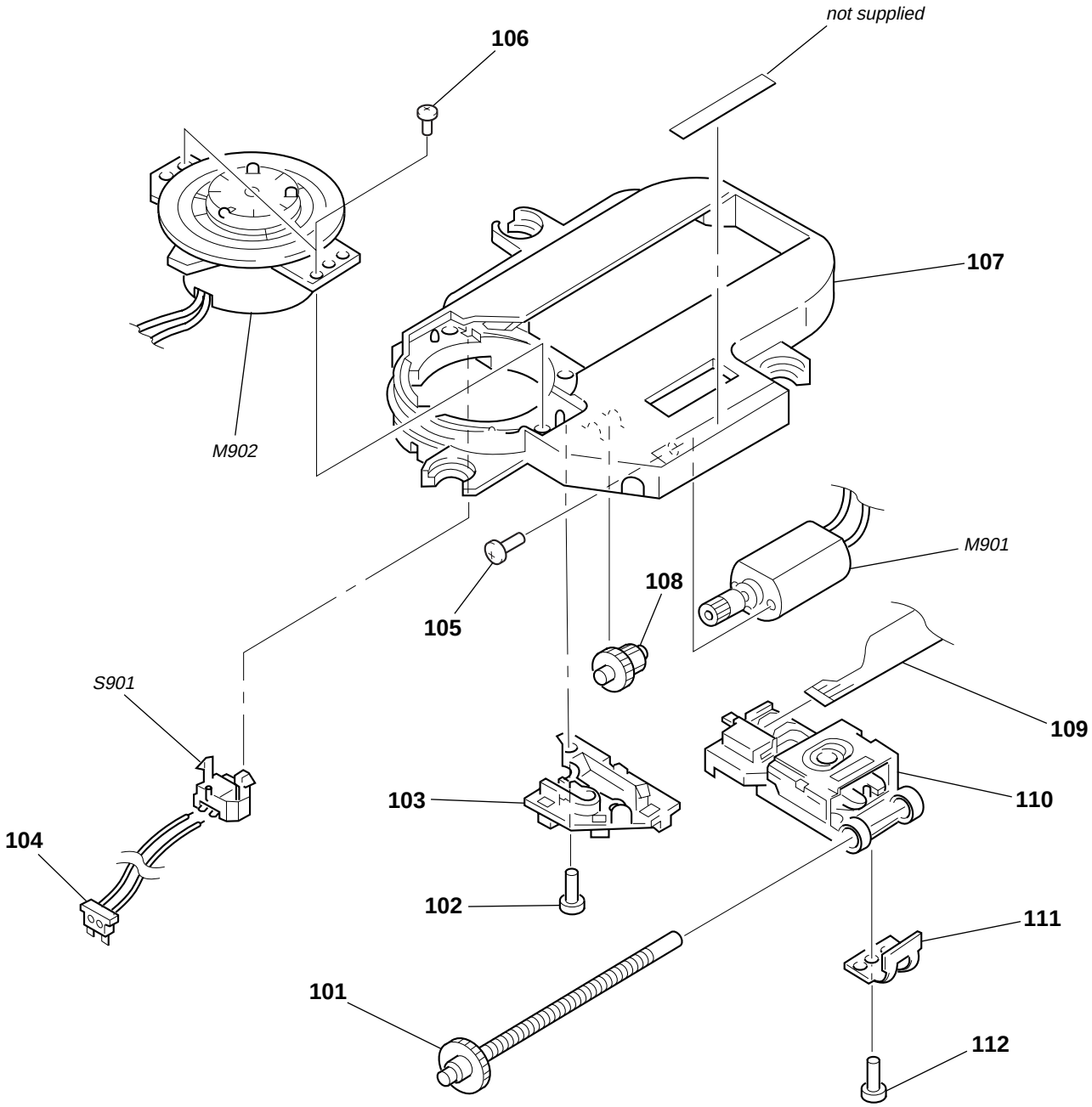
## (2) CABINET SECTION-2




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 51 | 4-966-278-01 | FOOT, RUBBER | |
| 52 | 4-993-129-01 | CABINET (LOWER) | |
| 53 | 4-993-131-01 | KNOB (HOLD) | |
| 54 | A-3021-144-A | MAIN BOARD, COMPLETE (EXCEPT E555: FR) | |
| 54 | A-3323-089-A | MAIN BOARD, COMPLETE (E555: FR) | |
| 55 | 4-993-132-01 | TERMINAL BOARD (+), BATTERY | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 56 | 4-993-134-01 | PLATE, CHARGE DETECTION | |
| 57 | 4-993-133-21 | SPRING (–), BATTERY TERMINAL | |
| 58 | 4-993-138-01 | INSULATOR | |
| 59 | 4-993-130-01 | LID, BATTERY CASE | |
| 60 | 4-984-751-01 | KNOB (AVLS) | |

## (3) MECHANISM DECK SECTION (CDM-2911EBA)




The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 101 | A-3303-970-A | SCREW ASSY, FEED | |
| 102 | 3-318-203-11 | SCREW (B1.7), TAPPING | |
| 103 | 4-972-163-04 | SPRING, SLED | |
| 104 | 1-783-093-11 | LEAD (WITH CONNECTOR) | |
| 105 | 7-627-850-17 | SCREW, PRECISION +P 1.4X2.5 | |
| 106 | 3-719-401-11 | SCREW (B1.7), TAPPING | |
| * 107 | 4-984-320-01 | CHASSIS | |
| 108 | 4-974-003-01 | GEAR (B) | |
| 109 | 1-667-512-11 | SLIDE FLEXIBLE BOARD | |
| ⚠110 | X-4950-476-1 | OPTICAL PICK-UP (DAX-11E) | |
| 111 | 4-972-165-01 | RACK | |
| 112 | 4-973-631-01 | SCREW | |
| M901 | A-3311-902-A | MOTOR ASSY, SLED | |
| M902 | A-3320-642-A | MOTOR ASSY, TURN TABLE (SPINDLE) | |
| S901 | 1-571-099-21 | SWITCH (1 KEY) (LIMIT) | |

# SECTION 8
# ELECTRICAL PARTS LIST

**MAIN**

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Abbreviation
  EE : East European model
  FR : French model
  G : German model
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | A-3021-144-A | MAIN BOARD, COMPLETE (EXCEPT E555: FR) | | | |
| | A-3323-089-A | MAIN BOARD, COMPLETE (E555: FR) | | | |
| | | ********** | | | |
| | 4-993-132-01 | TERMINAL BOARD (+), BATTERY | | | |
| | 4-993-133-21 | SPRING (–), BATTERY TERMINAL | | | |
| | 4-993-134-01 | PLATE, CHARGE DETECTION | | | |
| | | < CAPACITOR/RESISTOR > | | | |
| C101 | 1-104-851-11 | TANTALUM CHIP | 10uF | 20% | 10V |
| C102 | 1-162-927-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C103 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C104 | 1-162-927-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C105 | 1-113-690-11 | ELECT CHIP | 220uF | 20% | 4V |
| C107 | 1-162-927-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C111 | 1-165-128-11 | CERAMIC CHIP | 0.22uF | | 16V |
| C201 | 1-104-851-11 | TANTALUM CHIP | 10uF | 20% | 10V |
| C202 | 1-162-927-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C203 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C204 | 1-162-927-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C205 | 1-113-690-11 | ELECT CHIP | 220uF | 20% | 4V |
| C207 | 1-162-927-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C211 | 1-165-128-11 | CERAMIC CHIP | 0.22uF | | 16V |
| C302 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C303 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C304 | 1-113-690-11 | ELECT CHIP | 220uF | 20% | 4V |
| C305 | 1-135-201-11 | TANTALUM CHIP | 10uF | 20% | 4V |
| C307 | 1-162-919-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C308 | 1-162-919-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C311 | 1-135-201-11 | TANTALUM CHIP | 10uF | 20% | 4V |
| C312 | 1-135-201-11 | TANTALUM CHIP | 10uF | 20% | 4V |
| C314 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C317 | 1-104-852-11 | TANTALUM CHIP | 22uF | 20% | 6.3V |
| C318 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C320 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C322 | 1-110-569-11 | TANTALUM CHIP | 47uF | 20% | 6.3V |
| C323 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C324 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C325 | 1-162-919-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C326 | 1-107-826-11 | CERAMIC CHIP | 0.1uF | 10% | 16V |
| C327 | 1-135-201-11 | TANTALUM CHIP | 10uF | 20% | 4V |
| C333 | 1-164-362-11 | CERAMIC CHIP | 470PF | 5% | 50V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C402 | 1-104-908-11 | TANTALUM CHIP | 47uF | 20% | 4V |
| C403 | 1-113-682-11 | TANTALUM CHIP | 33uF | 20% | 10V |
| C404 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C406 | 1-164-505-11 | CERAMIC CHIP | 2.2uF | | 16V |
| C407 | 1-113-690-11 | ELECT CHIP | 220uF | 20% | 4V |
| C408 | 1-104-851-11 | TANTALUM CHIP | 10uF | 20% | 10V |
| C414 | 1-162-970-11 | CERAMIC CHIP | 0.01uF | 10% | 25V |
| C415 | 1-162-966-11 | CERAMIC CHIP | 0.0022uF | 10% | 50V |
| C416 | 1-162-959-11 | CERAMIC CHIP | 330PF | 5% | 50V |
| C417 | 1-104-847-11 | TANTALUM CHIP | 22uF | 20% | 4V |
| C418 | 1-135-155-21 | TANTALUM CHIP | 4.7uF | 10% | 16V |
| C419 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C420 | 1-110-569-11 | TANTALUM CHIP | 47uF | 20% | 6.3V |
| C421 | 1-104-851-11 | TANTALUM CHIP | 10uF | 20% | 10V |
| C422 | 1-104-852-11 | TANTALUM CHIP | 22uF | 20% | 10V |
| C423 | 1-107-826-11 | CERAMIC CHIP | 0.1uF | 10% | 16V |
| C424 | 1-164-816-11 | CERAMIC CHIP | 220PF | 2% | 50V |
| C425 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C426 | 1-104-852-11 | TANTALUM CHIP | 22uF | 20% | 10V |
| C427 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C428 | 1-113-682-11 | TANTALUM CHIP | 33uF | 20% | 10V |
| C429 | 1-109-982-11 | CERAMIC CHIP | 1uF | 10% | 10V |
| C430 | 1-164-505-11 | CERAMIC CHIP | 2.2uF | | 16V |
| C431 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C432 | 1-164-505-11 | CERAMIC CHIP | 2.2uF | | 16V |
| C433 | 1-162-970-11 | CERAMIC CHIP | 0.01uF | 10% | 25V |
| C434 | 1-164-816-11 | CERAMIC CHIP | 220PF | 2% | 50V |
| C436 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/16W |
| C437 | 1-113-682-11 | TANTALUM CHIP | 33uF | 20% | 10V |
| C438 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C439 | 1-104-851-11 | TANTALUM CHIP | 10uF | 20% | 10V |
| C443 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C451 | 1-135-201-11 | TANTALUM CHIP | 10uF | 20% | 4V |
| C452 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C501 | 1-162-919-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C503 | 1-162-970-11 | CERAMIC CHIP | 0.01uF | 10% | 25V |
| C504 | 1-164-362-11 | CERAMIC CHIP | 470PF | 5% | 50V |
| C505 | 1-162-967-11 | CERAMIC CHIP | 0.0033uF | 10% | 50V |
| C506 | 1-109-994-11 | CERAMIC CHIP | 2.2uF | 10% | 10V |
| C509 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C510 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |

# MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C511 | 1-125-817-11 | CERAMIC CHIP | 10uF | 10% | 6.3V |
| C513 | 1-165-176-11 | CERAMIC CHIP | 0.047uF | 10% | 16V |
| C514 | 1-162-927-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C515 | 1-162-927-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C517 | 1-104-908-11 | TANTALUM CHIP | 47uF | 20% | 4V |
| C518 | 1-162-966-11 | CERAMIC CHIP | 0.0022uF | 10% | 50V |
| C519 | 1-162-966-11 | CERAMIC CHIP | 0.0022uF | 10% | 50V |
| C520 | 1-162-963-11 | CERAMIC CHIP | 680PF | 10% | 50V |
| C521 | 1-162-966-11 | CERAMIC CHIP | 0.0022uF | 10% | 50V |
| C522 | 1-164-489-11 | CERAMIC CHIP | 0.22uF | 10% | 16V |
| C523 | 1-109-994-11 | CERAMIC CHIP | 2.2uF | 10% | 10V |
| C525 | 1-104-908-11 | TANTALUM CHIP | 47uF | 20% | 4V |
| C526 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C527 | 1-164-489-11 | CERAMIC CHIP | 0.22uF | 10% | 16V |
| C528 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C529 | 1-104-908-11 | TANTALUM CHIP | 47uF | 20% | 4V |
| C530 | 1-164-227-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C531 | 1-109-994-11 | CERAMIC CHIP | 2.2uF | 10% | 10V |
| C532 | 1-109-982-11 | CERAMIC CHIP | 1uF | 10% | 10V |
| C533 | 1-104-908-11 | TANTALUM CHIP | 47uF | 20% | 4V |
| C534 | 1-162-921-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C535 | 1-162-915-11 | CERAMIC CHIP | 10PF | 0.5PF | 50V |
| C536 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C537 | 1-104-847-11 | TANTALUM CHIP | 22uF | 20% | 4V |
| C538 | 1-110-501-11 | CERAMIC CHIP | 0.33uF | 10% | 16V |
| C541 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C542 | 1-113-677-11 | CERAMIC CHIP | 1uF | | 25V |
| C543 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C544 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C545 | 1-164-816-11 | CERAMIC CHIP | 220PF | 2% | 50V |
| C546 | 1-164-816-11 | CERAMIC CHIP | 220PF | 2% | 50V |
| C547 | 1-164-816-11 | CERAMIC CHIP | 220PF | 2% | 50V |
| C548 | 1-162-927-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C549 | 1-104-852-11 | TANTALUM CHIP | 22uF | 20% | 10V |
| C550 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C551 | 1-162-968-11 | CERAMIC CHIP | 0.0047uF | 10% | 50V |
| C552 | 1-162-913-11 | CERAMIC CHIP | 8PF | 0.5PF | 50V |
| C553 | 1-162-964-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C555 | 1-162-970-11 | CERAMIC CHIP | 0.01uF | 10% | 25V |
| C558 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C560 | 1-162-970-11 | CERAMIC CHIP | 0.01uF | 10% | 25V |
| C562 | 1-135-181-21 | TANTALUM CHIP | 4.7uF | 20% | 6.3V |
| C565 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C601 | 1-104-908-11 | TANTALUM CHIP | 47uF | 20% | 4V |
| C602 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C603 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C604 | 1-115-467-11 | CERAMIC CHIP | 0.22uF | 10% | 10V |
| C605 | 1-107-823-11 | CERAMIC CHIP | 0.47uF | 10% | 16V |
| C611 | 1-104-847-11 | TANTALUM CHIP | 22uF | 20% | 4V |
| C613 | 1-117-720-11 | CERAMIC CHIP | 4.7uF | | 10V |
| C801 | 1-162-964-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C802 | 1-162-964-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C803 | 1-162-964-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C804 | 1-162-970-11 | CERAMIC CHIP | 0.01uF | 10% | 25V |
| C805 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C806 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C807 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C808 | 1-135-151-21 | TANTALUM CHIP | 4.7uF | 20% | 4V |
| C809 | 1-162-970-11 | CERAMIC CHIP | 0.01uF | 10% | 25V |
| C810 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C811 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C812 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C813 | 1-164-677-11 | CERAMIC CHIP | 0.033uF | 10% | 16V |
| C815 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| C816 | 1-115-156-11 | CERAMIC CHIP | 1uF | | 10V |
| C819 | 1-164-156-11 | CERAMIC CHIP | 0.1uF | | 25V |
| | | < CONNECTOR > | | | |
| CN501 | 1-779-761-21 | CONNECTOR, FPC (ZIF) | | | |
| CN502 | 1-784-342-31 | HOUSING, CONNECTOR 2P | | | |
| CN503 | 1-784-342-21 | HOUSING, CONNECTOR 2P | | | |
| CN504 | 1-784-342-11 | HOUSING, CONNECTOR 2P | | | |
| CN801 | 1-766-492-21 | CONNECTOR, FFC/FPC (ZIF) 24P | | | |
| | | < DIODE > | | | |
| D101 | 8-719-039-99 | DIODE UMZ8.2T | | | |
| D201 | 8-719-039-99 | DIODE UMZ8.2T | | | |
| D301 | 8-719-988-78 | DIODE SB007W03Q | | | |
| D303 | 8-719-039-99 | DIODE UMZ8.2T | | | |
| D304 | 8-719-039-99 | DIODE UMZ8.2T | | | |
| D305 | 8-719-039-99 | DIODE UMZ8.2T | | | |
| D306 | 8-719-039-99 | DIODE UMZ8.2T | | | |
| D402 | 8-719-050-90 | DIODE MA736-TX | | | |
| D404 | 8-719-067-19 | DIODE RB415D-T146 | | | |
| D405 | 8-719-049-09 | DIODE 1SS367-T3SONY | | | |
| D407 | 8-719-050-90 | DIODE MA736-TX | | | |
| D409 | 8-719-049-09 | DIODE 1SS367-T3SONY | | | |
| D410 | 8-719-049-09 | DIODE 1SS367-T3SONY | | | |
| D411 | 8-719-988-61 | DIODE 1SS355TE-17 | | | |
| D415 | 8-719-049-09 | DIODE 1SS367-T3SONY | | | |
| D416 | 8-719-049-09 | DIODE 1SS367-T3SONY | | | |
| D501 | 8-719-049-09 | DIODE 1SS367-T3SONY | | | |
| D601 | 8-719-024-81 | DIODE 1SS300-TE85L | | | |
| D604 | 8-719-049-09 | DIODE 1SS367-T3SONY | | | |
| D801 | 8-719-049-09 | DIODE 1SS367-T3SONY | | | |
| D803 | 8-719-941-09 | DIODE DAP202U | | | |
| D804 | 8-719-941-09 | DIODE DAP202U | | | |
| D805 | 8-719-158-15 | DIODE RD5.6S-B | | | |
| D806 | 8-719-049-09 | DIODE 1SS367-T3SONY | | | |
| D811 | 8-719-158-15 | DIODE RD5.6S-B | | | |
| | | < FERRITE BEAD/COIL/RESISTOR > | | | |
| FB101 | 1-500-238-22 | FERRITE | 0uH | | |
| FB102 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| FB201 | 1-500-238-22 | FERRITE | 0uH | | |
| FB202 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| FB301 | 1-414-228-11 | INDUCTOR CHIP | 0uH | | |
| FB306 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| FB308 | 1-414-235-22 | INDUCTOR CHIP | 0uH | | |
| FB309 | 1-500-444-11 | FERRITE | 0uH | | |
| FB310 | 1-500-444-11 | FERRITE | 0uH | | |
| FB311 | 1-414-760-21 | INDUCTOR CHIP | 0uH | | |
| FB502 | 1-412-002-31 | INDUCTOR CHIP | 4.7uH | | |
| FB601 | 1-216-295-00 | SHORT | 0 | | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < IC > | |
| IC301 | 8-759-483-60 | IC TC9438FNEL | |
| IC302 | 8-759-522-87 | IC TA2120FN (EL) | |
| IC401 | 8-759-483-61 | IC MPC18A26VMEL | |
| IC402 | 8-759-464-04 | IC S-81340HG-KJ-T1 | |
| IC403 | 8-759-387-31 | IC TC75S55F (TE85R) | |
| IC501 | 8-759-432-83 | IC BA6386K | |
| IC502 | 8-759-564-92 | IC BU9325BKS | |
| IC504 | 8-759-483-62 | IC MPC17A51VMEL | |
| IC505 | 8-759-387-31 | IC TC75S55F (TE85R) | |
| IC507 | 8-759-082-60 | IC TC7S66FU | |
| IC601 | 8-759-484-37 | IC SM5902AF | |
| IC603 | 8-759-527-01 | IC MN41X4400TT-10L | |
| IC801 | 8-759-576-65 | IC MC68HC05L24-SC440488CFU | |
| | | < JACK/DIODE > | |
| J301 | 8-749-015-13 | DIODE GP1FB200TK (LINE OUT (OPTICAL)) | |
| J302 | 1-778-368-31 | JACK, HEADPHONE (🎧/REMOTE) | |
| J401 | 1-778-153-21 | JACK, DC (POLARITY UNIFIED TYPE) | (DC IN 4.5V) |
| | | < SHORT > | |
| JC502 | 1-216-295-00 | SHORT 0 | |
| JC503 | 1-216-295-00 | SHORT 0 | |
| | | < COIL/FERRITE BEAD > | |
| L111 | 1-414-916-11 | FERRITE 0uH | |
| L211 | 1-414-916-11 | FERRITE 0uH | |
| L301 | 1-414-916-11 | FERRITE 0uH | |
| L302 | 1-414-916-11 | FERRITE 0uH | |
| L306 | 1-414-916-11 | FERRITE 0uH | |
| L311 | 1-414-916-11 | FERRITE 0uH | |
| L401 | 1-414-434-11 | INDUCTOR 100uH | |
| L402 | 1-414-449-11 | INDUCTOR CHIP 100uH | |
| L403 | 1-414-398-11 | INDUCTOR 10uH | |
| L404 | 1-414-434-11 | INDUCTOR 100uH | |
| L405 | 1-414-434-11 | INDUCTOR 100uH | |
| L406 | 1-500-451-11 | FERRITE 0uH | |
| L407 | 1-500-451-11 | FERRITE 0uH | |
| L501 | 1-414-398-11 | INDUCTOR 10uH | |
| L502 | 1-414-398-11 | INDUCTOR 10uH | |
| L503 | 1-414-402-11 | INDUCTOR 47uH | |
| L504 | 1-414-398-11 | INDUCTOR 10uH | |
| L505 | 1-414-402-11 | INDUCTOR 47uH | |
| L801 | 1-414-916-11 | FERRITE 0uH | |
| L802 | 1-412-002-31 | INDUCTOR CHIP 4.7uH | |
| L803 | 1-412-002-31 | INDUCTOR CHIP 4.7uH | |
| L811 | 1-500-444-11 | FERRITE 0uH | |
| L812 | 1-414-916-11 | FERRITE 0uH | |
| L813 | 1-414-916-11 | FERRITE 0uH | |
| L814 | 1-414-916-11 | FERRITE 0uH | |
| | | < TRANSISTOR > | |
| Q101 | 8-729-231-74 | TRANSISTOR 2SC4116-GL | |
| Q201 | 8-729-231-74 | TRANSISTOR 2SC4116-GL | |
| Q302 | 8-729-907-39 | TRANSISTOR IMD2 | |
| Q304 | 8-729-028-74 | TRANSISTOR DTA114TUA-T106 | |
| Q401 | 8-729-920-85 | TRANSISTOR 2SD1664-QR | |
| Q402 | 8-729-921-93 | TRANSISTOR 2SB1182F5-QR | |
| Q403 | 8-729-044-10 | FET MMBF0201NLT1 | |
| Q405 | 8-729-320-66 | TRANSISTOR 2SD1870 | |
| Q406 | 8-729-043-46 | FET MMBF2201NT1 | |
| Q407 | 8-729-043-46 | FET MMBF2201NT1 | |
| Q408 | 8-729-043-46 | FET MMBF2201NT1 | |
| Q409 | 8-729-230-60 | TRANSISTOR 2SA1586-YG | |
| Q410 | 8-729-230-60 | TRANSISTOR 2SA1586-YG | |
| Q411 | 8-729-028-26 | FET 2SK1829 (TE85L) | |
| Q414 | 8-729-231-74 | TRANSISTOR 2SC4116-GL | |
| Q417 | 8-729-230-60 | TRANSISTOR 2SA1586-YG | |
| Q451 | 8-729-231-74 | TRANSISTOR 2SC4116-GL | |
| Q452 | 8-729-028-74 | TRANSISTOR DTA114TUA-T106 | |
| Q453 | 8-729-028-26 | FET 2SK1829 (TE85L) | |
| Q501 | 8-729-028-74 | TRANSISTOR DTA114TUA-T106 | |
| Q505 | 8-729-028-74 | TRANSISTOR DTA114TUA-T106 | |
| Q511 | 8-729-028-74 | TRANSISTOR DTA114TUA-T106 | |
| Q513 | 8-729-028-74 | TRANSISTOR DTA114TUA-T106 | |
| Q601 | 8-729-029-06 | TRANSISTOR DTC124EUA-T106 | |
| Q602 | 8-729-924-28 | TRANSISTOR DTA123YU | |
| Q603 | 8-729-029-06 | TRANSISTOR DTC124EUA-T106 | |
| Q801 | 8-729-231-74 | TRANSISTOR 2SC4116-GL | |
| | | < RESISTOR > | |
| R1 | 1-216-295-00 | SHORT 0 | |
| R101 | 1-216-813-11 | METAL CHIP 220 5% 1/16W | |
| R102 | 1-216-845-11 | METAL CHIP 100K 5% 1/16W | |
| R103 | 1-216-839-11 | METAL CHIP 33K 5% 1/16W (EXCEPT E555: FR) | |
| R103 | 1-216-847-11 | METAL CHIP 150K 5% 1/16W (E555: FR) | |
| R104 | 1-216-815-11 | METAL CHIP 330 5% 1/16W | |
| R105 | 1-216-821-11 | METAL CHIP 1K 5% 1/16W | |
| R107 | 1-216-789-11 | METAL CHIP 2.2 5% 1/16W | |
| R201 | 1-216-813-11 | METAL CHIP 220 5% 1/16W | |
| R202 | 1-216-845-11 | METAL CHIP 100K 5% 1/16W | |
| R203 | 1-216-839-11 | METAL CHIP 33K 5% 1/16W (EXCEPT E555: FR) | |
| R204 | 1-216-815-11 | METAL CHIP 330 5% 1/16W | |
| R205 | 1-216-821-11 | METAL CHIP 1K 5% 1/16W | |
| R207 | 1-216-789-11 | METAL CHIP 2.2 5% 1/16W | |
| R208 | 1-216-847-11 | METAL CHIP 150K 5% 1/16W (E555: FR) | |
| R302 | 1-216-864-11 | METAL CHIP 0 5% 1/16W | |
| R303 | 1-216-853-11 | METAL CHIP 470K 5% 1/16W | |
| R304 | 1-216-805-11 | METAL CHIP 47 5% 1/16W | |
| R305 | 1-216-864-11 | METAL CHIP 0 5% 1/16W | |
| R306 | 1-216-809-11 | METAL CHIP 100 5% 1/16W | |
| R311 | 1-216-821-11 | METAL CHIP 1K 5% 1/16W | |
| R312 | 1-216-142-00 | RES, CHIP 4.7 5% 1/8W | |
| R351 | 1-216-864-11 | METAL CHIP 0 5% 1/16W | |
| R352 | 1-216-295-00 | SHORT 0 | |
| R401 | 1-216-815-11 | METAL CHIP 330 5% 1/16W | |
| R402 | 1-216-857-11 | METAL CHIP 1M 5% 1/16W | |
| R405 | 1-216-837-11 | METAL CHIP 22K 5% 1/16W | |
| R407 | 1-216-825-11 | METAL CHIP 2.2K 5% 1/16W | |
| R408 | 1-216-833-11 | METAL CHIP 10K 5% 1/16W | |
| R410 | 1-216-864-11 | METAL CHIP 0 5% 1/16W | |

## MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R411 | 1-216-029-00 | METAL CHIP | 150 | 5% | 1/10W |
| R412 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W |
| R413 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W |
| R414 | 1-216-302-00 | METAL CHIP | 2.7 | 5% | 1/10W |
| R415 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R417 | 1-218-716-11 | METAL CHIP | 10K | 0.5% | 1/16W |
| R418 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R419 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R420 | 1-218-728-11 | METAL CHIP | 33K | 0.5% | 1/16W |
| R421 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| R422 | 1-218-891-11 | RES, CHIP | 68K | 0.5% | 1/16W |
| R423 | 1-216-839-11 | METAL CHIP | 33K | 5% | 1/16W |
| R424 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/16W |
| R427 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R428 | 1-216-805-11 | METAL CHIP | 47 | 5% | 1/16W |
| R430 | 1-218-867-11 | RES, CHIP | 6.8K | 0.5% | 1/16W |
| R431 | 1-216-861-11 | METAL CHIP | 2.2M | 5% | 1/16W |
| R432 | 1-218-895-11 | RES, CHIP | 100K | 0.5% | 1/16W |
| R433 | 1-218-913-91 | RES, CHIP | 560K | 0.5% | |
| R434 | 1-216-861-11 | METAL CHIP | 2.2M | 5% | 1/16W |
| R435 | 1-220-800-91 | RES, CHIP | 1.5M | 0.5% | |
| R436 | 1-218-913-91 | RES, CHIP | 560K | 0.5% | |
| R437 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R438 | 1-216-861-11 | METAL CHIP | 2.2M | 5% | 1/16W |
| R439 | 1-218-740-11 | METAL CHIP | 100K | 0.5% | 1/16W |
| R440 | 1-218-881-11 | RES, CHIP | 27K | 0.5% | 1/16W |
| R441 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R442 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R443 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R444 | 1-216-853-11 | METAL CHIP | 470K | 5% | 1/16W |
| R445 | 1-220-800-91 | RES, CHIP | 1.5M | 0.5% | |
| R448 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R449 | 1-218-446-11 | METAL CHIP | 1 | 5% | 1/16W |
| R451 | 1-216-839-11 | METAL CHIP | 33K | 5% | 1/16W |
| R452 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/16W |
| R454 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R501 | 1-216-848-11 | METAL CHIP | 180K | 5% | 1/16W |
| R502 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/16W |
| R503 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/16W |
| R504 | 1-216-839-11 | METAL CHIP | 33K | 5% | 1/16W |
| R505 | 1-216-832-11 | METAL CHIP | 8.2K | 5% | 1/16W |
| R506 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R509 | 1-216-835-11 | METAL CHIP | 15K | 5% | 1/16W |
| R510 | 1-218-877-11 | RES, CHIP | 18K | 0.5% | 1/16W |
| R511 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R512 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/16W |
| R513 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R517 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/16W |
| R518 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R519 | 1-216-831-11 | METAL CHIP | 6.8K | 5% | 1/16W |
| R521 | 1-216-836-11 | METAL CHIP | 18K | 5% | 1/16W |
| R522 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R523 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| R525 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R526 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R528 | 1-216-836-11 | METAL CHIP | 18K | 5% | 1/16W |
| R531 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R532 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/16W |
| R533 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/16W |
| R534 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| R535 | 1-216-827-11 | METAL CHIP | 3.3K | 5% | 1/16W |
| R538 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R542 | 1-218-748-11 | METAL CHIP | 220K | 0.5% | 1/16W |
| R543 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/16W |
| R545 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/16W |
| R547 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/16W |
| R548 | 1-216-825-11 | METAL CHIP | 2.2K | 5% | 1/16W |
| R549 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R550 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| R551 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/16W |
| R552 | 1-216-841-11 | METAL CHIP | 47K | 5% | 1/16W |
| R567 | 1-218-740-11 | METAL CHIP | 100K | 0.5% | 1/16W |
| R569 | 1-216-843-11 | METAL CHIP | 68K | 5% | 1/16W |
| R570 | 1-216-851-11 | METAL CHIP | 330K | 5% | 1/16W |
| R571 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/16W |
| R576 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/16W |
| R602 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R603 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/16W |
| R604 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R605 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| R606 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| R607 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| R609 | 1-216-837-11 | METAL CHIP | 22K | 5% | 1/16W |
| R612 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R651 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| R652 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| R801 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R802 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R803 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R804 | 1-216-854-11 | METAL CHIP | 560K | 5% | 1/16W |
| R805 | 1-216-861-11 | METAL CHIP | 2.2M | 5% | 1/16W |
| R806 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R807 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R808 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/16W |
| R809 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R810 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R811 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/16W |
| R812 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R814 | 1-216-829-11 | METAL CHIP | 4.7K | 5% | 1/16W |
| R815 | 1-216-833-11 | METAL CHIP | 10K | 5% | 1/16W |
| R818 | 1-216-864-11 | METAL CHIP | 0 | 5% | 1/16W |
| R819 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R822 | 1-218-883-11 | RES, CHIP | 33K | 0.5% | 1/16W |
| R823 | 1-216-849-11 | METAL CHIP | 220K | 5% | 1/16W |
| R824 | 1-216-845-11 | METAL CHIP | 100K | 5% | 1/16W |
| R825 | 1-216-851-11 | METAL CHIP | 330K | 5% | 1/16W |
| R826 | 1-216-851-11 | METAL CHIP | 330K | 5% | 1/16W |
| R827 | 1-216-851-11 | METAL CHIP | 330K | 5% | 1/16W |
| R828 | 1-218-897-11 | RES, CHIP | 120K | 0.5% | 1/16W |
| R829 | 1-218-891-11 | RES, CHIP | 68K | 0.5% | 1/16W |
| R830 | 1-218-887-11 | RES, CHIP | 47K | 0.5% | 1/16W |
| R835 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R836 | 1-218-740-11 | METAL CHIP | 100K | 0.5% | 1/16W |
| R837 | 1-218-740-11 | METAL CHIP | 100K | 0.5% | 1/16W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R841 | 1-216-857-11 | METAL CHIP | 1M | 5% | 1/16W |
| R849 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R853 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R855 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R856 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R857 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| R858 | 1-216-821-11 | METAL CHIP | 1K | 5% | 1/16W |
| | | < VARIABLE RESISTOR > | | | |
| RV301 | 1-225-468-21 | RES, VAR, CARBON 10K/10K (◢ VOL) | | | |
| RV401 | 1-241-395-11 | RES, ADJ, METAL GLAZE 10K | | | |
| RV502 | 1-223-996-21 | RES, CARBON ADJ VAR 22K | | | |
| RV503 | 1-223-996-21 | RES, CARBON ADJ VAR 22K | | | |
| | | < SWITCH > | | | |
| S301 | 1-762-078-11 | SWITCH, SLIDE (AVLS) | | | |
| S801 | 1-692-366-31 | SWITCH, PUSH (1 KEY) (OPEN) | | | |
| S803 | 1-762-078-11 | SWITCH, SLIDE (RESUME) | | | |
| S804 | 1-762-078-11 | SWITCH, SLIDE (HOLD ➡) | | | |
| | | < TRANSFORMER > | | | |
| T401 | 1-431-557-11 | TRANSFORMER, DC-DC CONVERTER | | | |
| | | < VIBRATOR > | | | |
| X301 | 1-767-605-11 | VIBRATOR, LITHIUM TANTALATE | | | (16.9344MHz) |
| X801 | 1-767-192-11 | VIBRATOR, CERAMIC (4.195MHz) | | | |

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MISCELLANEOUS
**********

| | | | |
|---|---|---|---|
| 8 | 1-475-997-11 | SWITCH UNIT | |
| 104 | 1-783-093-11 | LEAD (WITH CONNECTOR) | |
| 109 | 1-667-512-11 | SLIDE FLEXIBLE BOARD | |
| ⚠110 | X-4950-476-1 | OPTICAL PICK-UP (DAX-11E) | |
| M901 | A-3311-902-A | MOTOR ASSY, SLED | |
| M902 | A-3320-642-A | MOTOR ASSY, TURN TABLE (SPINDLE) | |
| S901 | 1-571-099-21 | SWITCH (1KEY) (LIMIT) | |

**********

ACCESSORIES & PACKING MATERIALS
**********

| | | | |
|---|---|---|---|
| | 1-251-696-11 | CONNECTING PACK, CAR (E556CK) | |
| ⚠ | 1-467-195-11 | ADAPTOR, AC (AC-E455A) (US) | |
| ⚠ | 1-473-115-11 | ADAPTOR, AC (AC-E455D) (UK) | |
| ⚠ | 1-473-116-35 | ADAPTOR, AC (AC-E455D) (EXCEPT US, UK) | |
| | 1-475-603-11 | REMOTE CONTROL UNIT (RM-DM29) (E555) | |
| | 1-528-939-11 | BATTERY PACK (NI-CD) (E555: EE) | |
| | 1-528-939-21 | BATTERY PACK (NI-CD) | (E555: US, AEP, UK, FR, G) |
| | 1-532-452-99 | FUSE, GLASS CYLINDRICAL (DIA.5) (1A) | (E556CK) |
| | 1-543-793-11 | FILTER, CLAMP (FERRITE CORE) | (E556CK: US) |
| | 1-784-619-11 | CORD DCC-E2455//M SET (E556CK) | |
| | 3-758-927-12 | INSTRUCTION (E555: US) | |
| | 3-856-479-11 | MANUAL, INSTRUCTION (SPANISH) | (E556CK: AEP) |
| | 3-856-479-21 | MANUAL, INSTRUCTION (ENGLISH) | (E556CK: US, AEP, UK) |
| | 3-856-479-31 | MANUAL, INSTRUCTION (FRENCH) | (E556CK: AEP) |
| | 3-856-479-41 | MANUAL, INSTRUCTION (DUTCH) | (E556CK: AEP) |
| | 3-856-479-51 | MANUAL, INSTRUCTION (SWEDISH) | (E556CK: AEP) |
| | 3-856-479-61 | MANUAL, INSTRUCTION (PORTUGUESE) | (E556CK: AEP) |
| | 3-856-479-71 | MANUAL, INSTRUCTION (GERMAN) | (E556CK: AEP, G) |
| | 3-856-479-81 | MANUAL, INSTRUCTION (ITALIAN) | (E556CK: AEP) |
| | 3-856-479-91 | MANUAL, INSTRUCTION (FINNISH) | (E556CK: AEP) |
| | 3-864-734-11 | MANUAL, INSTRUCTION (RUSSIAN) | (E555: EE) |
| | 3-864-734-21 | MANUAL, INSTRUCTION (CZECH) (E555: EE) | |
| | 3-864-734-31 | MANUAL, INSTRUCTION (HUNGARIAN) | (E555: EE) |
| | 3-864-734-41 | MANUAL, INSTRUCTION (POLISH) (E555: EE) | |
| | 3-865-446-11 | MANUAL, INSTRUCTION (SPANISH) (AEP) | |
| | 3-865-446-21 | MANUAL, INSTRUCTION (ENGLISH) | (EXCEPT G) |
| | 3-865-446-31 | MANUAL, INSTRUCTION (FRENCH) | (E555: AEP, FR/E556CK: AEP) |
| | 3-865-446-41 | MANUAL, INSTRUCTION (DUTCH) | (E555: AEP, EE/E556CK: AEP) |
| | 3-865-446-51 | MANUAL, INSTRUCTION (SWEDISH) (AEP) | |
| | 3-865-446-61 | MANUAL, INSTRUCTION (PORTUGUESE) | (AEP) |
| | 3-865-446-71 | MANUAL, INSTRUCTION (GERMAN) (AEP, G) | |
| | 3-865-446-81 | MANUAL, INSTRUCTION (ITALIAN) (AEP) | |
| | 3-865-446-91 | MANUAL, INSTRUCTION (FINNISH) (AEP) | |
| * | 4-998-554-01 | TAPE (A), M (E556CK) | |
| * | 4-998-554-11 | TAPE (A), M (E556CK) | |
| * | 4-998-555-01 | TAPE (B), M (E556CK) | |
| | 8-953-130-90 | HEADPHONE MDR-E805LP/K SET | (E556CK: AEP, UK, G) |
| | 8-953-276-90 | HEADPHONE MDR-24SP SET (E555: US) | |
| | 8-953-304-90 | RECEIVER MDR-E805SP SET | (E555: AEP, UK, FR, G, EE) |
| | 8-953-342-93 | HEADPHONE MDR-24/1 SET | (E551/E556CK: US) |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

9-926-953-11

**Sony Corporation**
**Personal A&V Products Company**


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